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Users Hope Microsoft Sales Reorg Pays Off

'Tailwind' plan includes expanded account teams, closer alignment with vertical industries

BY CAROL SLIWA
MINNEAPOLIS

Microsoft Corp. is ramping up an enterprise sales force restructuring, known internally as Tailwind, under which the company will align its account teams with specific industries and add 1,000 industry and technology specialists to them during the next 12 months.

partner group, said at the company's Worldwide Partner Conference here last week that users should see "a more coordinated account team" that gives them access to specialists with in-depth knowledge, not just staffers from their local sales offices.

Microsoft also plans to align with business partners based

on how users buy software from them. Witts said that one of the goals of Tailwind, which began taking effect when Microsoft's fiscal year began this month, is to give the account teams a better understanding of the business needs of customers.

Some users reached by Computerworld said that, although they have generally been pleased with their sales interactions, Tailwind will be beneficial if it

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LINUX GOES GLOBAL

SPECIAL REPORT

SPECIAL REPORT Serious Linux deployments are popping up at businesses all over the world, including a German insurer and a Chinese bank. Why? The reasons have more to do with practicalities than with zealotry. Our regional report begins on Page 31.

ONLINE: Guest blogger Maria Winslow, an expert on Windows-to-Linux migrations, will discuss open source issues for the next two weeks. [Click here](#) to read.

HPC Software Shortfall Limits User Benefits

BY PATRICK THIBODEAU
WASHINGTON

High-performance computing is emerging as a critical IT need at many large companies that use simulation and virtualization to design and test their products. But there's a growing gap between the hardware and software capabilities in HPC systems.

Although hardware vendors can build systems with hundreds or even thousands of processors, many of the HPC applications developed by software vendors typically utilize only 12 or 16 processors in parallel, according to IT man-

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Managing Metadata



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34 Europe: Open-source still has appeal, but the financial industry's push for lower costs is spiking Linux adoption.



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Linux server use is common, yet some companies are moving more slowly when it comes to signing support contracts.



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38 Africa: Although hampered by spotty infrastructure, wider Linux adoption across the continent is being pushed by technology advocacy groups.

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But some IT execs still fight for user, management buy-in. By Heather Havenstein

IN THE WAKE of a homeland security emergency or natural disaster, officials in New Jersey up until a few months ago had no way to simply and quickly get comprehensive information on the state's 21 counties, like population statistics or building locations.

The problem: The data definitions — or metadata — within state systems described county data in five different ways, said Dan Paolini, director of data management services in the New Jersey Office of Information Technology.

"Many times in an emergency, you may have to, in an ad hoc way, pull data out of two different systems you wouldn't have thought to do before," he said. "All of a sudden, you can't trust the answer to something as simple as what county something is in."

But state officials had never used a universal way for referencing the identity of a county — and the genders and ethnicities of its populations — and then rolled out a master reference-data registry in March. Now, all of the state government's future IT development projects will include the preferred metadata definitions, Paolini said.

New Jersey's IT operation is one of a growing number of organizations fueling something of a revival of metadata management, as technology and new processes make it possible to overcome earlier challenges. Yet, at some companies, IT managers still face problems gaining user and/or management buy-in.



Metadata is the technical information about data, like the type and field name. Vendors began rallying around the idea of managing metadata in the late 1990s and started assembling data dictionaries or repositories as part of mainframe projects and Cobol development. But enterprise metadata management has just recently caught the eye of IT managers.

Early Failures

Early metadata management tools — like IBM's unsuccessful AD/Cycle metadata repository, which ran on a mainframe and DB2 in the late 1990s — failed to catch on because vendor technologies and internal processes at user companies weren't mature enough, said Stuart Carry, founder and principal of Civilian Research Associates LLC, a metadata research firm in Danville, Calif.

In addition, he said, it often took companies between six months and a year to harvest metadata from the old development tools and database

schemas. Some of today's Web-based tools use a real-time architecture, allowing users to install metadata repository tools in the morning and begin harvesting definitions the same day, he said.

This rebirth, users said, is also tied to the increasing importance of metadata in ensuring that business intelligence projects can provide managers with reliable information to make near-real-time decisions and to give developers details about Web and Java services so they can reuse them in service-oriented architectures (SOA).

"I've been working in metadata management since the early '80s, and I finally feel like I have company," said

Barbara Nichols, president of Acton, Mass.-based consulting firm Metaview360.

"The promise of building a data warehouse is that you can measure and steer your business with it, but the answers to queries are coming back ambiguous," she said. "You have all those definitions in there that may or may not mean the same thing, and they are being used to calculate if we should build a new manufacturing facility. [These are] bet-your-business kinds of decisions."

This month, Unilever Latin America will embark on a metadata management project as part of an effort to create a shared BI services group that

will provide reports to users in 14 countries in South America, Mexico and the Caribbean, said Monica Parisi, information architecture manager at the Brazil-based company.

Unilever has disparate metadata stored in its extract, transform and load tools and other BI applications, she said.

"We don't have an integrated place to combine this metadata and really take advantage of it," Parisi said. "Today, we have many, many people working to re-create views and to combine data to use in the warehouse."

If workers in the shared-services group receive a request for a new view of data from the warehouse or a new report, they need a centralized location to access metadata, she added.

Vendors, meanwhile, have also been focusing more on metadata management. For example, a key reason for IBM's \$1 billion acquisition of Accentual Software Corp. was to meld IBM's information management technology with Accentual's integration and metadata management tools.

Just after the acquisition closed in April, IBM officials outlined plans to build a single

Intel Finds Huge ROI in Managing Metadata

ESTIMATES \$6 IN SAVINGS FOR EVERY \$1 SPENT

WHILE SOME IT OPERATIONS are still struggling to help top executives see the cost benefits of managing metadata, such an effort has paid off big for Intel Corp.

After a false start six years ago, the chip maker now estimates that for every \$1 it spends on metadata management, it saves \$5.

In addition, the company plans the fall to begin combining its enterprise data repository with a code-reuse system that saved it \$53 million in development costs last year, said Gregg Wyant, the chief architect in Intel's IT department.

Intel began its foray into meta-

data management with the launching of an online metadata repository that it built to let developers catalog metadata created in new projects.

However, the company found that it didn't have a process in place at the time to ensure that metadata was re-evaluated to reflect changes within the data itself. Wyant said.

"Someone scans databases to extract metadata. [But] if you don't have a regular process to re-examine the content of a repository, look at usage information and ensure the freshness rate is current with data itself, you can run into a situation where metadata becomes out of sync," Wyant said. "The

data in the repository will be fresh for one to two quarters and then fall out of sync."

In 2003, the company turned its approach upside-down: Instead of first looking for tools that can grab metadata, the company began creating a process that focuses on when information is released and then aligns metadata capture with that schedule.



Today, the enterprise metadata repository contains metadata about Intel customers, products and sales programs that includes analytics.

And at the beginning of the fourth quarter, Intel plans to combine its enterprise metadata repository with the code-reuse system, which allows de-

repository architecture — including metadata discovery, exchange and management — that will incorporate IBM products and Ascential tools (Quick Link 54230).

On the BI side, Business Objects SA in January rolled out BusinessObjects XI, which includes bolstered business and technical metadata management.

Meanwhile, Information Builders Inc. in March unveiled its new BI tool set called WebFocus 7, which includes new metadata management tools from its iWay Software Inc. subsidiary.

Verizon Communications Inc. is tackling enterprise metadata management for its SuperPages online directory. Verizon is using IBM's WebSphere MetaStage, a metadata directory built by Ascential that provides business users and developers with common data definitions.

For Verizon's business users, MetaStage provides data lineage — details about the source of data — so BI reports available via the company's executive portal have better context, said Mark Abramson, an enterprise data architect at the New York-based telecom-

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Hurdles

Tackling enterprise metadata management is still riddled with challenges. One of the biggest, IT executives said, is getting user buy-in.

"The IT director at a large Europe-based investment bank, who asked not to be named, said his company has been able to gain user support for metadata management efforts only for specific integration projects."

"When you try and look at metadata management as a



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In New Jersey, the state's IT shop struggled with how to structure its metadata repository, said Paolini.

"One of the first mistakes we made was thinking, 'I need to get one vendor with these great repository tools,'" he said. "There is no single repository that you can buy that is going to adequately meet every metadata requirement."

Instead of building "one giant repository in the sky," the state has focused on building separate repositories for different types of data, like business definitions, data models and requirements, Paolini added.

To manage the reference data that points users to the various repositories, the state uses software from Eaglewood Cliffs, N.J.-based Data Foundations Inc.

Hewlett-Packard Co. in April launched an enterprise metadata management pilot that will run through next month. HP uses SuperGlue, a metadata analysis tool from Informatica Corp.

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Still, Poindexter is struggling to justify the investment to upper management because there is no internal return-on-investment data available yet.

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"The metadata repository and reuse program combined together will house data for Intel's enterprise architecture," Wyant said. "In the past, when [we] didn't have the information recorded in a common place, you would have several teams doing development not aware that another team was doing the same work."

Intel hopes the combined repository will help cut the time — which can peak at 30% of a developer's day — it takes for developers to find information assets, Wyant added.

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Master Data Needs Managing Too

ONE OF THE BIGGEST myths in metadata management is that it's synonymous with master data management.

While metadata refers to data that describes other data — the data type and field name — master data is shared across systems like lists or hierarchies of customers, suppliers or accounts.

Monitor Graphics Corp., a Wilmette, Ill.-based hardware and software design company, uses a master data management server from Hyperion Solutions Corp. to publish master data across its multidimensional databases and Oracle, SAP and Calixtus systems, said Joe-William Baldwin, Monitor's director for analytical applications and quality.

Before the company began using the server last year, publishing changes in product master data was a manual process, he said.

"Doing synchronization manually would obviously pose problems because you may have had a change in one system [that] is not made in the next system," he said.

The company has since begun using the server for its sales organization hierarchies, and it's now trying to develop the system for its general ledger processes, Baldwin said.

"You can be guaranteed that a few minutes after you make a change, all the systems reflect the change... without manual intervention and without people forgetting," Baldwin said. "That really helped us get concise data — especially around the end of quarter when we released our data warehouse every four hours."

In addition, the server can help the company through a Sarbanes-Oxley Act compliance audit, he added. "It is very easy for us to show how the process works and explain when their data made a change it gets made consistently across the board," Baldwin said.

The Hyperion server launches a workflow process asking for the required approval for any master data change, and it checks to make sure the change meets standards the management committee sets, said John Kopsch, Hyperion's chief technology officer.

The changes are pushed out to all ERP systems and data warehouses while recording the history and audit trail of those changes, he added.

Hyperion acquired its master data management server through its January purchase of Rizzo Solutions Inc.

Unilever Latin America began using Kallio Ltd.'s BI master data management software six months ago.

Unilever uses SAP, PeopleSoft and Siebel systems to manage a data integration project to link human resources data from SAP, PeopleSoft and Siebel systems.

Unilever's information architecture manager.

The company is also using the tool to more quickly produce its financial reports each quarter.

"Sometimes the business wants to use the data in a way that we don't have it in the transactional system," Patel said. "It is easy to create a new hierarchy with Kallio and create the governance to maintain the hierarchy. Until today, we didn't have a tool to maintain these hierarchies, and centralizing a transactional system was expensive."

Unilever this week will begin planning a new project in which Kallio will be used to globally manage information about new products.

Though master data management is separate from metadata efforts, Stuart Cary, founder and principal of Givian Research Associates, suggests that the latter can often help companies prepare for master data management projects.

—Heather Haverstein

CAN AUTOMATE UPDATES OF MULTIPLE APPS, DATABASES

AT DEADLINE

Ebberts Sentenced To 25 Years

Former WorldCom CEO Bernard Ebberts has been sentenced to 25 years in prison for his role in the company's historic collapse into bankruptcy in the wake of an \$11 billion accounting scandal. U.S. District Court Judge Barbara Jones ordered Ebberts, 60, to report to prison in Mississippi by mid-October. Jones had earlier denied Ebberts' request for a new trial.

Microsoft Found To Infringe AT&T Patent

Microsoft Corp. infringed an AT&T Corp. patent for speech-cooling technology in its distribution of a master version of Windows outside of the U.S. for replication, the U.S. Court of Appeals ruled, overruling the first loss resulting from a 2001 lawsuit. Microsoft agreed to an undisclosed settlement with AT&T in March 2004 but retained the right to appeal its ability for patent infringement.

AMD Makes Return To Profitability

Advanced Micro Devices Inc. swung back into the black in the second quarter after losing \$27 million in the first quarter. The company credited strong growth in its processor business for its \$71 million profit.

Short Takes

VMWARE INC., a unit of EMC Corp., later this month plans to announce that it will adopt a per-socket pricing model for dual-core servers, rather than charge per CPU. ... **Paul Singer**, CIO at TAT-CON, announced plans to retire effective Aug. 26. No successor has been announced, said a spokeswoman for the retailer.

IBM Jumps Back Into Water-Cooled Systems

Offers add-on unit to help reduce heat generated by high-density server racks

BY PATRICK THIBODEAU

WATER-COOLED server racks remain a rare thing in data centers. But IBM's move last week to offer an add-on water-cooling unit for its Intel-based eSeries servers and other systems should increase the technology's visibility as a potential solution to heat problems.

Water cooling already is on the minds of some users. For instance, the topic was briefly discussed last week at a meeting of the Central Indiana chapter of AFCCM, an association for data center managers. "Nobody was buzzing with enthusiasm," said Jamie Mao, who heads the chapter. Mao isn't dismissing water cooling, though. "The way technology is moving to blade servers, I can see a benefit to it, but it will be somewhat down the road," said Mao. An architecture and operations infrastructure manager at Arvin-Meritor Inc. in Troy, Mich.

Shifting Back

IBM long used water cooling in its mainframes but gave up on the technology as it shifted to smaller and less-expensive versions of those systems a decade ago. Now, the increasing density of blade servers is giving water cooling new life.

IBM's eServer Rear Door Heat eXchanger, code-named Cool Blue, is designed to handle the heat produced by large racks of blades and other high-density systems. It can be retrofitted on the company's standard 42U enterprise rack, which houses eSeries servers, and it's also available as part of IBM's Linux-based Cluster IBM system. It is 1.75 in. high.

Heat eXchanger pricing starts at \$4,229, plus installation costs. The device uses

chilled water from existing air-conditioning systems in data centers. IBM claims that the eXchanger will remove up to 50,000 British thermal units, reduce server heat emissions by about half and lower energy costs by 15%.

Kent Howell, manager of computer operations at Ameren Corp.'s AmerenIP subsidiary in Decatur, Ill., said water cooling is a technology "that may clearly have a value in the future, as servers get smaller and hotter and there are more and more of them filling up data centers."

Water cooling isn't in the immediate future for Howell



— his data center has excess air-handling capacity. But "a year from now, it may be a whole different story," he said.

Cool Blue "is something we would look at," said Jim Krause, CIO at Chicago Mercantile Exchange Inc. "The blade-server issue that thing is addressing is obviously a concern."

Krause noted that most data

centers weren't designed to handle the high levels of heat generated by racks of small servers (see related interview, page 14).

Charles King, an analyst at Pund-IT Research in Hayward, Calif., said that because of the heat generated by newer processors, many IT managers "are suddenly looking at power and heating and air-conditioning requirements that are going off the scale." IBM's offering could help users "buy some time" before they have to rebuild or retrofit their data centers, King added.

Vendors such as Knurr Inc. and American Power Conversion Corp. already offer water-cooled units for servers. But Gordon Haft, an analyst at Illuminatus Inc. in Nashua, N.H., said that IBM's move to the technology because of its prior experience with mainframes. **■ 55097**

Lucas Mearian contributed to this story.

Hitachi Unveils High-End, Midrange Array Updates

HP, Sun to resell the new systems

BY LUCAS MARIAN

Hitachi Data Systems Corp. last week brought out new versions of its high-end and midrange storage arrays with upgrades that include RAID 6 features allowing for the failure of up to two disk drives without a loss of data.

In conjunction with the product announcement, Hewlett-Packard Co. said it will be reselling the high-end array as the XP2000, a scaled-down version of the XP2000 model it sources from Hitachi. At the same time, Sun Microsystems Inc. said it will resell Hitachi's new high-end device as the StorEdge 9985.

Hitachi is calling the NSC55 "high-end array" a "miniaturized version" of its TagmaStore Universal Storage Platform (USP), which includes virtual-

ization capabilities that let external storage from various vendor arrays be managed as if it was a single pool. Unlike the older version, the NSC55 array is rack-mountable.

Buyer's Remorse

But Burke, manager of IT services at Prison Technology Inc. in Mississauga, Ontario, said he wishes the XP2000 version of the NSC55 had been available from HP last fall, when he purchased an XP2000.

He called the older machine a "solid" workhorse but said the XP2000 "meets all the needs of our XP2000 now but at lower cost. It's really more of the same technology."

The NSC55 scales from five to 240 disk drives and has up to 64TB of internal storage capacity. Hitachi claims it can manage up to 16 petabytes of external storage. The array also supports Hitachi's high-end internally switched archi-

itecture, logical partitioning and data replication features. List prices start at about \$150,000 for a 5TB model.

"Hitachi is making its way within the reach of a much larger audience," said Greg Schultz, an analyst at Evaluator Group Inc. in Greenwood Village, Colo.

Hitachi, which previously called its midrange arrays the Thunder 9900V line, said its new TagmaStore Adaptable Modular Storage (AMS) and lower-end Workgroup Modular Storage (WMS) models feature RAID 6 data protection, virtualization capabilities and the ability to split a port so it can be accessed by multiple hosts. They also support 4Gb/sec. Fibre Channel port connectivity, Hitachi said.

The AMS systems offer a mix of both Fibre Channel and lower-cost Serial ATA drives. The WMS line can be configured with SATA drives only for low-cost near-line storage applications, which could be used for purposes such as archiving data for regulatory compliance. **■ 55088**

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BRIEFS

Qualcomm Sues Broadcom Back

Qualcomm Inc., which is facing an antitrust lawsuit and two patent infringement suits filed this month by rival Broadcom Corp., last week filed its own patent suit against Broadcom. Cell phone chip maker Qualcomm accused Broadcom of infringing on seven of its patents for technology used in Global System for Mobile Communications phones and Wi-Fi devices.

HP Hires Dell's CIO To Head Its IT Unit

Hewlett-Packard Co. has hired Dell Inc.'s CIO to run its internal IT department, as new HP CEO Mark Hurd continues to make changes. Randy Mett, 48, comes to HP after five years at Dell and 22 years in IT at Wal-Mart Stores Inc. He takes over the IT duties from Gilles Bouchard, who will continue to manage HP's supply chain as executive vice president of global operations.

Microsoft Releases Security Updates

Microsoft Corp. has released software updates designed to patch security flaws in Internet Explorer and Word as well as a flaw in a feature of Windows that's used by a number of applications. The IE and Windows patches address flaws that as attackers could exploit to take control of a user's system via a maliciously accessed Web page.

Lockheed Wins \$152M Army Pact

The U.S. Army awarded a contract worth more than \$152 million to Lockheed Martin Corp. to operate the Army Knowledge Online enterprise Web portal. The Army said the portal is used more than half a million times daily by Army personnel. Under the deal, Computer Sciences Corp. and Science Applications Inc. subcontractors will serve as major subcontractors.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL



Whoa There, Nellie! We're Going . . .

... fast enough for office PCs. But keep pouring it on for servers. That's pretty much how the folks at SAS Institute Inc. view the continuing progress being made by microprocessor developers. Jim Goodnight, the business intelligence software vendor's CEO, wryly

observes that with its 2-GHz Pentiums, Intel Corp. has finally broken free from the operating system anchor that was dragging down desktop performance. "Intel would improve its speed every 18 months, and Microsoft would slow it down every 18 months," Goodnight quips. Desktops are getting so fast, points out Jim Davis, chief marketing officer at Cary, N.C.-based SAS, that Dell Inc. promotes its new Precision 380 workstations with dual-core Pentium chips as both gaming devices and professional systems. The vast majority of business users simply don't need that much power — unless they're also gamers, of course.

However, servers are a different kettle of fish. "We have an insatiable appetite for power on servers," Goodnight says. To that end, SAS is busy rewriting its business intelligence code to be multithread-

ed so the software can take advantage of dual-core technology in servers. "In the next couple of years, every single piece of SAS software will be multithreaded," Goodnight says. That requires the company to tune its code for specific combinations of

chips and operating systems — for example, Linux. Desktops are chips from both Intel and Advanced Micro Devices Inc. Windows on Intel, Solaris on Sparc. Uh, what about the push Sun Microsystems Inc. is making with Solaris 10 running on servers with AMD's dual-core Opteron processors? Not just yet, says Goodnight, who last week listened to a pitch about supporting those systems from Sun CEO

Scott McNealy. "We're hearing just a little from customers about Solaris 10" on Opteron, Goodnight notes. What can SAS get with all that server power? Well, next month the company plans to install its first implementation of a credit card fraud detection tool that's code-named Raptor. HSBC Holdings PLC will use Raptor to monitor the activity of its 100 million credit cards. Goodnight says the service-level agreement he's on the hook for with the London-based bank calls for SAS to process 100,000 antifraud transactions per second. Not even the best gaming PC can touch that.

Lasso branch-office data with . . .

... a tape-free backup appliance. Steve Goodman, CEO of San Francisco start-up Lasso Logic Corp., worked at Accenture Ltd. for more than 10 years as a consultant to companies installing data backup systems. Goodman sees the benefits of tape technology for storing terabytes of corporate information. But for branch offices, where IT support is minimal or nonexistent, and at smaller businesses, "tape is dead," he argues. Or he hopes it will be once you get a look at his Lasso CDP appliance, which uses low-cost Serial ATA disk drives to store your bits and bytes. Starting at \$150 and available this week, the appliance relies on agents loaded on Windows desktops, laptops or servers to send it data whenever changes are made to files you want backed up (Linux support is due this fall). The appliance stores the information locally and backs itself

up over the Internet to another Lasso device in your data center or wherever you want it located. Users can right-click on a lost file and have it restored instantly without having to plead with IT to restore it from tape. Goodman says, adding that the data stored off-site can be used for disaster recovery. Now "think globally, act locally" isn't just a catchy eco-slogan. It's your backup mantra.

Wait, wait — don't tell me tape . . .

... is dead. It will live on for a long time, because while low-cost disk devices are pushing up against the 200GB level, midrange tape are doable that. So says Rich D'Ambrise, director of technology at Maxell Corporation of America Inc. By 2011, Maxell's NeoSmart manufacturing process will push midrange tape capacity to 10TB or more, D'Ambrise says, explaining that the key to boosting capacity is sophisticated production technology. For example, NeoSmart reduces the size of the magnetic particles on the medium to pack more of them together. To help lower data errors, NeoSmart also lets Maxell reduce the size of microscopic rough spots on tapes by 30%, D'Ambrise claims. He acknowledges the appeal of cheap SATA drives for near-line backups but says tape is more cost-effective and easier to tote around and remain the way to go for long-term archiving. Given the crush of new compliance requirements, D'Ambrise says IT needs a new backup acronym. He suggests WORSE — Write Once, Read Seldom, if ever. © 2004



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"When we calculated the total cost of ownership for Red Hat Linux using a 10-year Net Present Value Model, we were surprised at how much higher it was than for Windows."

—J.E. Henry, CTO,
Regal Entertainment Group

Regal Entertainment Group, the largest movie theater operator in the U.S., ran its POS concession and ticket terminals on Red Hat Linux. However, they saw that it lacked the vendor support and remote management tools they needed to support their strategic plans. After an in-depth comparison, Regal found that Windows Embedded would deliver a lower TCO, improved security, and fewer risks. "With Windows, we get an integrated, easily managed platform that can extend from the data center to our POS devices," says Cliff DeYoung, CTO at Regal.

To get the full case study, other case studies, or third-party findings, go to microsoft.com/getthefacts



GLOBAL

Intel's Offices in Europe Subject to 'Dawn Raid'

BRUSSELS

ANTITRUST AUTHORITIES from the European Commission raided offices of Intel Corp. and an undisclosed number of PC manufacturers last week as part of "an ongoing competition investigation" of Intel's business practices, commission spokeswoman Linda Caine said.

Raids occurred at Intel's sites in Swindon, England, and Munich. "Intel believes that our business practices are both fair and lawful," company spokeswoman Mario Thompson said afterward. "It is Intel's practice to cooperate fully with the authorities in these investigations, and this is what we are doing in this case."

Rival Advanced Micro Devices Inc. welcomed the news about the raids. "It's a sign the investigation into Intel's continuing infringements of [European Union] competition rules is being stepped up," said Jens Drews, AMD's director of government relations. He

An International IT News Digest

added that AMD had provided European authorities with "strong evidence of illegal activities," which had "clearly been sufficient for the EU to respond with its strongest weapon — the dawn raid."

Late last month, AMD filed an antitrust lawsuit against Intel in U.S. District Court in Delaware and made similar claims of anticompetitive acts in a Japanese court [QuickLink 55353]. ■ SIMON TAYLOR, IDG NEWS SERVICE

Aussie Transit Riders To Get Smart Cards

THE STATE GOVERNMENT of Victoria, Australia, last week tapped IT services firm Keane Inc. as the prime contractor for a \$367 million smart card system for public transit fares. The deal includes two years of development work and 10 years of operations and maintenance.

The smart card system will be used at 270 rail-way stations and on 480 trams and L650 buses. It's scheduled to go live in 2007, enabling travelers

GLOBAL FACT

to use a single payment card for all types of public transit within Victoria, said Boston-based Keane.

The plastic card, which is similar to a prepaid mobile phone card, will be a significant improvement over the magnetic-stripe paper tickets used now. Keane claimed. Passengers will be able to store fares on their cards using self-service machines, the telephone or the Internet, the company said.

Thailand Plans Medical Records Database

ORACLE CORP. last week announced a partnership with the government of Thailand to create a nationwide database of medical and genetic records that will be used to help provide individualized medical care to Thai citizens based on their genetic makeup.

The electronic records could also act as a monitoring tool to help curb outbreaks of diseases such as SARS and avian influenza, the announcement said.

Oracle's subsidiary in Thailand will be working with the Thailand Center of Excellence for Life Sciences in Bangkok to develop the huge database. But details of the partnership, such as the cost, timetable and database size, aren't available yet, an Oracle spokeswoman said. ■ 55545

Compiled by Mitch Betts.

Briefly Noted

OUTSOURCEWORLDZ Ltd., a joint venture of five New Zealand software development companies, was launched last week in an effort to get U.S. businesses to send more offshore IT work to New Zealand. The five partners are the New Zealand government, software to a total of \$5.2 million (NZ\$) to fund a four-person office office in London. ■ STEPHEN DELL, COMPUTERWORLD NEW ZEALAND

THE EC last week warned eight countries that they must comply with its electronic waste directives or face prosecution in the European Court of Justice. The eight target countries are Estonia, Poland, France, Greece, Italy, Malta, Poland and the U.K. ■ SIMON TAYLOR, IDG NEWS SERVICE

Computerbank AG, the third-largest bank in Germany, has selected Verity Inc.'s K2 Enterprise advanced search engine for its corporate Web site, the *Frankfurter Allgemeine Zeitung* said last week. The Frankfurt-based bank embeds search engines based on factors such as security, personalization and multilingual capabilities.

Exchanges Face New IT Demands, Merc CIO Says

BY LUCAS NEARMAN

Over the past five years, Chicago Mercantile Exchange Inc. (CME) has gone from trading 15% of its futures contracts electronically to processing almost 70% of them online — while also increasing the number of contracts it processes daily from 972,000 to 4.2 million. CJO Jim Wrascoe spoke with Computerworld last week about some of the ongoing IT challenges that the CME faces.

The New York Stock Exchange is buying an electronic trading platform with its acquisition of Archipelago Holdings, and Nasdaq is replacing its SuperMarket trading technology through its acquisition of Interquote. How is the CME going to keep up with the other

exchanges? I think the big issue you'll see with automated trading — I know Nasdaq has this issue because we've talked to them — is the proliferation of market data, especially when you start trading options electronically.

One of the big things we've been working on with the other exchanges is developing highly efficient standards and capabilities, such that you can minimize bandwidth growth impacts and maximize the amount of information going out the door to traders.

With its acquisition of Archipelago, the NYSE is going public. You want public more than we

years ago. How did that affect your use of technology? Going public and having to react to shareholders' concerns has put more demands on IT to deliver functionality and capabilities. I think we met those challenges, though maybe the [trading-volume] growth rates could have been better if we were faster. It's hard to say.

I think we realize the electronic market is the key to the exchange in the future, and we're willing to invest in the technologies [that are needed] to expand the trading [and] keep it a premier platform going forward. In the end, it is still all about shareholder value.

The NYSE is looking at keeping a hybrid system going forward that includes both electronic and traditional floor trading. Do you think that can work?

We're still in a hybrid mode. If you look at what makes a market, it is technology or something else? I'd argue it's something else, and that something else is liquidity — the ability to get in and get out of a market when you want to. Electronic capabilities certainly help that.

What we've done is figured out that instead of bifurcating liquidity between open outcry and electronic trading, we could marry those two into a single market. Obviously, the customers have been deciding to move electronically, but there are also various things that [make trading] complex, and you may want to talk to a human being.

What factors drive your IT spending decisions? The things that become more prevalent are the software costs when you start licensing multiple versions of applications or operating

systems. Also, as servers get more capabilities and become faster and smaller, you face the infrastructure issues of power, cooling and wiring data centers. Our conventional data centers were not built for racks and racks of IT servers sitting together. The amount of heat they generate, especially some of the Intel boxes, is really where the costs are.

Are you considering using grid technology? Right now, it's really just an R&D effort. Could that technology be not only applicable but efficiently deployed in an electronic trading environment? What advantages does it have versus the straight client/server, outsourced approaches we have now? We're using some high-powered research to try to figure out what is the best approach for that going forward. ■ 55561

Q&A

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Users Wary of Oracle's Pricing Plans

BY MARC L. SORHJEL

WHILE Oracle Corp. executives are touting up the benefits of the company's Project Fusion technology road map, users last week said they are still pondering how they will be paying for it.

Project Fusion is Oracle's initiative to create a Java-based best-of-breed suite of applications based on components of its wide-ranging technology portfolio.

With its January acquisition of PeopleSoft Inc. and its more recent buyout of retail software maker Rent Inc., Oracle inherited a handful of licensing schemes that it has said it intends to pare down.

A number of users, particularly those with PeopleSoft and J.D. Edwards installations, last week said they remain a bit wary about Oracle's plans for pricing the new products.

Customers still have a lot of questions about how the new licensing model will work, said Pat Dues, president of the Oracle Applications User Group (OAUG) in Atlanta.

For instance, users who run PeopleSoft ERP software and want to migrate to Oracle's applications, or vice versa, are wondering how much moves will affect their costs, said Dues, a project officer for the Las Vegas city manager's office, which runs Oracle's E-Business Suite.

Reaching Out to Users

For its part, Oracle has been working to reassure its installed base of customers.

"The sky is definitely not falling," said Jacqueline Woods, vice president of pricing and licensing at Oracle.

"The existing licensing deals that customers have will remain in place indefinitely; users need convert to the Oracle model only if they are expanding their license footprint."

In the long run, Oracle is eyeing a variety of policies to simplify pricing, including one that charges by a specific workflow that might involve several applications, such as order to cash, and another that charges by transaction volumes, Woods said.

Despite such outreach efforts by Oracle, when it comes to the software vendor's pricing policies, "most customers that I have spoken with are still unclear as to the current and evolving strategy," said John Mateleski, deputy CIO for the city of Orlando, a J.D. Edwards EnterpriseOne user. Mateleski sits on the board of the Quest International Users Group of J.D. Edwards customers.

Mateleski indicated that users will be satisfied if Oracle

keeps its current maintenance pricing schemes. He also said customers are looking to Oracle for a firm date for publishing a Fusion price schedule.

Robert Robinson, business systems supervisor at Durr Industries Inc., a J.D. Edwards EnterpriseOne shop in Plymouth, Mich., said the pricing issue is a "concern" for his company.

Robinson noted that the Fusion project is a tremendous undertaking that will require "generous" research and de-

velopment spending. He wondered how Oracle will try to recoup that investment and noted that the company's options could include raising prices for shops that don't use the Oracle suite.

"As the Oracle evangelists circulate, no one has yet talked about the cost to the user," said Robinson.

For now, Oracle is looking to ensure stable recurring revenue and probably won't be doing much tinkering with pricing, said Paul Hammerman, an analyst at Cambridge, Mass.-based Forrester Research Inc. **■** 65091

Oracle Modifies Multicore Model

IN A CHANGE OF HEART, Oracle last week said that it will edge closer to the licensing model for multicore processors that has been adopted by other software vendors.

In a conference call on Friday, Jacqueline Woods, Oracle vice president of pricing and licensing, said that starting July 8, the company began counting each core on a multicore processor as equal to 0.75 of a single processor.

Previously, each core counted as a full processor (QuickLink 49897). "If you do the math, it counts as a 25% discount," she said.

Oracle changed the pricing scheme after conferring with customers and analysts over the past several months, Woods said. It still charges for each core rather than per processor to reflect incremental benefits to users, she said.

In the past, enterprise software companies have generally sold licenses based on the number of processors that customers had in place to run the software. But that scheme lapsed last fall after Advanced Micro Devices Inc. and Intel Corp. detailed plans for dual-core chips.

In recent months, IBM and Microsoft Corp. disclosed pricing plans that count dual-core CPUs as a single processor.

—Marc L. Sorhjel

Continued from page 1

HPC

users who attended a conference here last week. That view was echoed in a newly released IDC report.

"Hardware is getting there," said Thomas Lange, director of corporate research and development, modeling and simulation at The Procter & Gamble Co. "Software is way behind."

If companies such as Cincinnati-based P&G could test new products in fully computer-generated environments, they might be able to reduce development time and bring goods to market more quickly.

But, Lange said, "our need for speed is huge." In P&G's case, simulating even an action so seemingly simple as removing a bottle cap can involve millions of calculations.

Because of the current HPC application limits, physical testing of products may still be necessary, Lange noted. "Full virtualization is impossible," he said.

The software shortfall was one finding cited in IDC's report on high-performance applications, which was sponsored by the Defense Advanced Research Projects Agency and the Council on Competitiveness, a Washington-based advocacy group. The report was released in

Hardware is getting there. Software is way behind.

THOMAS LANGE, DIRECTOR OF CORPORATE RESEARCH, MODELING AND SIMULATION, PROCTER & GAMBLE

conjunction with the High Performance Computing Users Conference, which was organized by the council.

Most software vendors focus on the technical systems market, which revolves around PCs, workstations and small servers, because that's where most of the demand is, said Earl Joseph, an analyst at Framingham, Mass.-based IDC. The number of users that want to scale systems across hundreds or thousands of processors isn't large enough to justify the cost of rewriting and testing applications, Joseph said.

Loren Miller, director of IT research, development and engineering at The Goodyear Tire & Rubber Co. in Akron, Ohio, said the packaged HPC applications that he has installed can't scale beyond a 32-processor system, which is

used to simulate processes related to tire manufacturing. Miller called that limiting from a usage standpoint.

But he said he's hopeful that vendors will begin to adapt their applications to run on more processors. "I think all it takes is for one of them to get it out there, and we will see a lot of adoption in parallel computing," Miller said.

Some vendors already support large numbers of CPUs. Paul Bemis, vice president of product marketing at Fluent Inc., said the Lebanon, N.H.-based company's fluid dynamics software can scale up to 1,000 processors. But Bemis added that fostering wider adoption of high-performance computing will require making it more accessible to smaller companies.

Fluent began offering its software as an online service

two years ago, providing users with access to a 32-processor system. Bemis said he would like to move that service to a computing grid that could scale up to hundreds of CPUs.

"I think there is tremendous opportunity with grid," he said. But, he noted, the mid-tier industry needs to support high-performance computing use of grids doesn't exist.

According to the IDC report, many software vendors said they would be willing to partner with government agencies and academic institutions to accelerate the development of HPC applications.

Donald Paul, chief technology officer at Chevron Corp. in San Ramon, Calif., said the key role for government is at the research end. "The key role for industry is to connect into that research," he said. **■** 65066

Vendors Unite in New Battle Against Spyware

BY CHINA MARTENS

The recently formed Anti-Spyware Coalition (ASC), a group of IT companies and public interest groups, is hoping to succeed where a previous vendor organization failed in tackling the global problem of spyware.

The ASC last week released a draft document defining spyware and offering potential solutions to the problem along with an invitation for public comment.

The previous organization, the Consortium of Anti-Spyware Technology Vendors (Coast), fell apart in February after a failed 16-month effort to coordinate the conflicting goals of its members and settle an ongoing debate over whether to admit companies that build spyware.

The ASC, formed in early April by the Center for Democracy and Technology, has a much wider membership than Coast did, said Ari Schwartz, associate director of the Washington-based center.

ASC vendor members include America Online Inc., Computer Associates International Inc., Hewlett-

Packard Co., Microsoft Corp., Yahoo Inc., McAfee Inc., Symantec Corp. and Trend Micro Inc.

The Canadian Internet Policy and Public Interest Clinic and the Cyber Security Industry Alliance are also members.

The ASC was formed after a number of companies approached the Center for Democracy and Technology about forming a group to combat spyware.

Growing Corporate Problem

"What we're hearing from companies is that spyware is starting to become a bigger enterprise problem," said Schwartz, who heads the fledgling operation. He said the group can help enterprise IT organizations combat that problem.

Schwartz said the ASC will also work to improve communications between anti-spyware vendors and law enforcement agencies.

The new organization has learned from the failures of its predecessor, Schwartz said. "We're trying to help anti-spyware companies communicate

better together and with consumers."

The ASC is seeking public comment over the next month on the documents released last week. The organization

will review and respond to all the comments by Aug. 12 and then produce a final document, Schwartz said.

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Martens writes for the IDG News Service.

Sun Widens Open-source Plans To Identity Management Apps

BY CHINA MARTENS

Sun Microsystems Inc. last week announced plans to open the source code of its Web site authentication and single sign-on technologies, a move aimed at encouraging Java developers to build identity management capabilities into applications.

Eric Leach, a product management director at Sun, said the company hopes to convince developers to focus more on the use of identity management services than on comparing different suites of identity software.

"To date, they have been arguing about the length and width of the railroad ties instead of laying down tracks and getting the trains running," he said.

Sun also plans to open up the source code for agents that connect the authentication and single sign-on tools to its Web and application server software, Leach said.

All of the code will be released following the planned shipment of Version 7.0 of Sun's Java System Access Manager software in the fall.

Read-only source code will be avail-

able at the start of next year, Leach said, and the company will offer the full open source code under its Common Development and Distribution License shortly afterward.

The move marks Sun's third major foray into open-source software, following the earlier releases of its application server, an enterprise service bus and pieces of Solaris 10.

Earl Perkins, an analyst at Gartner Inc., said Sun is trying to get more exposure for its software, which other than Solaris hasn't been widely adopted by corporate users. "It's a way of bringing it into the light for consideration by enterprises," Perkins said.

Basic identity management functions are starting to be built into suites of security tools as well as application server and portal software, Perkins noted. "Sun is recognizing that its extranet access management product may have a somewhat limited shelf life." © 2005

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DON TENNANT

No Hurd? Absurd

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HP's users deserve to hear from Hurd. Here's hoping he can rearrange his schedule. ☎ 555-48

Don Tennant



VIRGINIA ROBBINS

Revisiting the Ragged Side Of Offshoring

I HAD ONLY 75 more e-mails to read through before I could head home, and it looked like most of the remaining ones were spam or what I call near-spam. Those are e-mails from salespeople who got your name from the front desk and want you to know how their product has aided many others in your industry. One caught my eye, however, even though I wasn't interested in the product.

The gist of the message was, "Now that you've outsourced and found that all you did was move your problems overseas, where they are more difficult to solve, why not try our new workflow-processing tool and actually solve your problems?" Finally, somebody else gets it! Offshoring makes many problems worse.

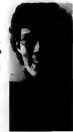
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The best talent worldwide is working to make products sold globally even better. This is the best of globalization. It's a bit like the McDonald's "I'm loving it" ad campaign: designed overseas, yet tailored for the local market.

- What we think of as authentic offshoring can hurt companies if it's not done very carefully. This is the type of offshoring in which a company doing work in one or many countries goes to yet another for one part of its operations. In this case, the company does work in that country only for this one function. That is, if it hadn't offshored this activity, it wouldn't have chosen to be in that part of the world.

Yes, the programmers in India, Vietnam and elsewhere are very talented. Some, I believe, are more talented than



a few of the Americans we recently interviewed for a development position. But in chasing low-cost programmers, many managers neglect to calculate the costs of having one part of their operations located 12 time zones away.

Our operations center is located in an adjacent state, so we can get there with a quick flight of just an hour and a half. During half of the year, those operations are in the same time zone as headquarters, and during the other half, they are an hour ahead. If you ignore the local slang, almost everyone speaks the same language. And yet, even though we enjoy far more similarities than we would with offshore operations, we still need to spend time to make sure we're working together and understanding each other.

But despite all this, as a manager, I have a fiscal responsibility to review all the ways in which my company's scarce resources can be allocated. Still, each time I look at offshoring, I reach the same conclusion. The hidden costs are large. Moreover, having smart developers tuned in to our business processes and able to discuss their ideas easily with business owners creates improvements in workflow, just like the near-spinner advertised.

The biggest challenge is that too much of our domestic talent doesn't understand this. Very few job candidates seem to take the opportunity to add value. Last year, it took us months to find the right person with the right attitude and the right skills. During that period of lost productivity, I could see some value in going overseas, even with the higher costs. **55467**

JOHN D. HALAMKA

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WHEN WE ADD employees at Harvard's hospitals, we provide them with services like heat, power, light and TGV/TP, always available and in generous supply. We monitor usage and expand the supply accordingly, as would a utility firm.

Over the past year, it has become clear to me that storage must be added to this list. Employees expect their files to be available around the clock in the office and at home. No matter where they are in the world, they expect to be able to access their e-mail,

including that SMB Power-Polish file they sent in 2003. The level of reliability, accessibility and security required by today's computer-savvy knowledge workers necessitates a centralized storage utility.

However, providing a storage utility service on a limited budget can be challenging, because as economist and Harvard President Larry Summers has said, "the demand for a free service is infinite." Although quotas may be an effective way to ensure that employees review and maintain their files, they are time-consuming to enforce.

Our answer has been hierarchical storage management (HSM). Personal files start out on a high-availability, high-speed storage-area network. After a short period, unused files are automatically moved to Serial ATA network-attached storage (NAS) or content-addressed storage (CAS). From there, unused files are moved to tape and archived at a very low cost per gigabyte. We also use business-continuous processes, snap copies and data-



base shadowing to speed up backup and recovery. Users can automatically retrieve their files from NAS, CAS or tape by clicking on the file name and waiting a few seconds for the restore.

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We're required to maintain all health care records for 30 years, but we aren't required to permanently store e-mail, instant messages or personal files. HSM enables us to implement policy-based archiving and destruction. We can determine not only what gets moved, but also how long it has been saved.

We may set a maximum number of years for storage, send out a warning and delete things when the threshold is met. We may also use HSM to identify unusually large volumes of MP3, WAV and MPEG files.

This centralized approach to storage enables us to offer a high-value service to our employees; reduce spending on local storage by using kiosk-type PCs

with very small hard disks; enforce business rules on file security, retention and availability; and enhance the reliability of our infrastructure.

But it does have its costs. When failures occur (and they will, albeit very rarely), the impact is substantial. Instead of a single user losing data, hundreds or thousands of people may not be able to reach their files. In my view, risk equals likelihood times impact. With a single desktop hard drive, the likelihood of failure is high, but impact is low. With central storage utilities, likelihood is very low, but impact is very high.

Also, the cost of acquiring and maintaining storage, even hierarchical managed storage, doesn't yet follow Moore's Law (or its storage corollary). Over time, the rate of storage demand is increasing faster than the cost of storage decreases, causing the budget for central storage to rise, slowly and steadily.

However, our experience thus far is that the pros outweigh the cons and that centralized storage is here to stay. For us, storage has truly become the fifth utility. **55468**

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Opteron's Future At Sun and Dell

WHEN I HEAR that Andy Bechtolsheim was back at Sun, I was very intrigued by what he could bring to the company ("The Opteron Option," QuickLink 54068). One of his start-ups, Granite Systems, led some very important groundwork for Cisco's greatest switching platform.

But since he rejoined Sun in early 2004, I have yet to hear about the fruits of his engineering prowess on standard x86_64 servers.

I'm beginning to think a "standard" x86_64 server is just that: component design is no standardized today, there is little room for supernatural performance, no matter how brilliant the engineer may be.

Perhaps the secret sauce is in the overall system design incorporating Serial ATA-6Gb, dual-core Opteron and a custom-designed chip set.

Whether it, I can't wait to see

how a Galaxy server stacks up against similar Opteron servers from IBM and HP. But my patience wears thin with each passing day. **C.W. Kirk**
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WHEN I HEAR how Dell won't use Opteron and that it fears losing price breaks from Intel, it sounds very much like the case against Microsoft's monopoly. Stick with mine, and you get a price break. I feel that Intel and Dell should be investigated by the Justice Department.

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"I'M MAC FAITHFUL" have not been presented with anything remotely like a "test" of our faithfulness with this switch to Intel ("Apple's Switch to Intel Tests the Mac Faithful," QuickLink 54066).

It's not the chip; it's the operating system, iMovie, Mail, Pages and iPhoto.

Steve Jobs has way too much in the credibility bank for anyone to bail on this last issue, my friend.

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IT Hasn't Changed in Decades

IF THE REVIEW of the Longman Mullins book ("The Rational Project Manager, Book Reviews, QuickLink 54236) is correct, IT hasn't advanced much over the last few decades.

The authors claim that the book discusses many areas that haven't been addressed in the past. I can't

agree. The items brought forth are the same ones we covered in project management and systems development methodologies in the early '80s.

Because of IT resistance, solutions were constantly rejected. It appears that nothing has changed, including IT's ability to reinvent the wheel.

Andrew H. Olson
Managing director,
Zigzag International Group,
Gainesville, Fla.

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Virginia Robbins is CEO and managing director at Chive Education, a training firm in San Francisco. Contact her at vj@chiveeducation.com.

OPINION

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However, our experience thus far is that the costs, although they may grow, are worth it. Centralized storage is better to stay for us. Storage has truly become the fifth utility. **55459**

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Because of IT resistance, "older" books were constantly rechecked to account for nothing has changed (except IT's ability to reinvent the wheel).

Andrew H. Olson
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"Fewer storage systems. Reduced complexity. HP StorageWorks® grid technology aids consolidation by maintaining information availability while anticipating massive growth."



ESG's management brief Hewlett-Packard's StorageWorks Grid at hp.com/info/storageworks

Global Strain

As companies stretch their supply chains around the world in response to market forces, they're looking for ways to tweak their pricey supply chain management systems. By Marc L. Songini

EXTENDING and maintaining its global supply chain has been a thorny challenge at VF Corp. The company sources finished products from the Far East and Central America, and also uses VF-owned factories plus other manufacturers operating under contract. "One thing about globalization is that it tends to throw a company into a constantly changing environment," says Ellen Martin, a vice president at the Greensboro, N.C.-based company.

As market demands push operations farther out globally, organizations such as VF are being forced to tweak and stretch their multimillion-

dollar supply chain management (SCM) software investments to match the extended supply chains.

Along with globalization come the pressures of meeting ever higher customer demands, fulfilling tough service-level agreements (SLA) and adding increasingly sophisticated forecasting, tracking and replenishment systems, such as those based around radio frequency identification technology.

Those new challenges follow the SCM boom of the late 1990s, when companies devoted considerable resources rolling out and then stabilizing complex forecasting, supplier management and replenishment applications, as well as related software, says Kevin O'Marah, an analyst at AMR Research Inc. in Boston.

The year 2000 was the high-water mark for SCM spending, he says, but over the past year, there has been some new stirring in the marketplace, largely fueled by fiercer global competition. But buying patterns are more modest than they were five years ago, when business was booming for vendors such as i2 Technologies Inc., Manugistics Inc. and SAP AG. That's because manufacturers and suppliers face over-

seas rivals that are able to deliver the least-expensive products to retailers like Wal-Mart Stores Inc., which have a seemingly insatiable demand for low-cost goods, says O'Marah.

Companies that want to compete must shave expenses down while becoming more nimble. "If you go back even a couple of years, you could be a bit more supply-driven and push



OR

product out to the market, and if there was a drop, fix it with promotions," says O'Meara. "Today, you've got to be more demand-driven."

For VF, it's been especially difficult to establish factories in countries such as Bangladesh, where there is only rudimentary communications technology. Plus, the workforce doesn't speak English and isn't technology-savvy, explains Martin. The \$6 billion a year company, which owns the Lee, North Face and Wrangler brands, needs a growing global supply chain in order to remain competitive. But that makes the accountability that VF's customers demand especially difficult to enforce.

Upgrades and Additions

VF runs i2's Demand Fulfillment 6.04 and Supply Chain Planner as its primary SCM system. To help do things such as share information with offshore planners, VF is rolling out i2's Master Data Management (MDM) application, says Will Shiver, the company's senior i2 analyst. This middleware tool promises to consolidate all relevant information around global manufacturing and supply chain operations and ensure that the information is kept up to date.

VF has wrapped up a pilot of MDM with plans to phase out a green-screen, mainframe-based planning system. Presently, VF has to import data to the mainframe, but after the MDM implementation, it will be able to leave the data in the Supply Chain Planner system without having to reformat it. From there, the data can be easily exported to an Excel spreadsheet and sent overseas to, say, a planner in Hong Kong. With globalization, VF has recognized the importance of making the full picture accessible virtually anywhere, Shiver says.

In addition, VF over the past two years has been rolling out a sourcing and production management applica-

tion for tracking and tracing orders over the Web, says Martin. The product, called e-SPS, is made by Miami-based apparel software maker New Generation Computing Inc. and requires only a PC and Web access. With it, a supplier and manufacturer can confirm that orders were received and give status reports on the actual production. And if there is a problem, an e-mail notification is sent to the appropriate VF staffer. The application talks to the i2 system via custom-written hooks created by VF, says Shiver.

As supply chains grow, the volume of information generated increases, demanding greater scalability for the SCM applications. VF is in the midst of an upgrade to Supply Chain Planner 6.1 from Version 5.3, which is expected to wrap up by year's end, says Shiver. The new version, which runs on IBM's high-end Unix boxes, will deliver a greater level of flexibility and complexity to rapidly create models of VF's growing international supply chains and produce more accurate forecasting, Shiver explains.

For instance, VF recently completed the Supply Chain Planner upgrade for its line of intimate apparel. When processing the bill of materials for, say, a bra, which will include data for multiple stock-keeping units, the application will factor the relevant information automatically, says Martin. The system uses custom-written hooks to take data from mainframe, ERP and other systems, such as the forecasting application from Atlanta-based Legility Inc., says Shiver.

Exploiting business intelligence software to boost planning accuracy is another way

VF is fine-tuning its supply chain. The e-SPS software can do vendor report cards and keep track of things such as how many irregular goods a supplier delivered, how efficiently the supplier shipped the goods and how much it costs to do business with, says Martin. Some factories are better at supplying certain garments, and VF wants to pinpoint where contracts should go.

Protecting the Jewels

Among the challenges of stretching out to the Far East is having the ability to access, control and manage information while protecting intellectual property, notes Duane Hardacre, director of supply chain strategy and corporate business systems at Finisar Corp., a maker of optical components for the networking and telecommunications industry. The Sunnyvale, Calif.-based company currently runs Oracle Corp.'s iB E-Business Suite and recently rolled out the vendor's iSupplier and Collaborative Planning portal to tighten collaboration with its offshore contract manufacturers and suppliers.

Finisar is using Oracle's software to make sure that suppliers have access only to the critical data they require, and that safeguards are built in to prevent unauthorized access or theft. The security infrastructure ensures that nonsensitive information is accessible to anyone in the company who needs it, while access to sensitive intellectual property is limited.

In addition, Finisar built security controls around transferring specific types of data, such as manufacturing-process documentation and bill-of-material information. The compe-

ny used a document control application from San Jose-based Agile Software Corp. that provides a security infrastructure to share this sort of data with suppliers.

Seeking Scalability

The need for greater scalability for its SCM software was the main issue at Miami-based Ryder System Inc., says Kevin Bott, vice president for product and technology management. Ryder provides inventory management, order processing, warehouse management and transportation services for its customers. The company recently upgraded to i2's Transportation Manager 6.51 from Version 5. The new software is completely Web- and Java-enabled, and it's optimized to handle "larger problems faster," he says.

Ryder's legacy software could handle only a limited number of orders, which had to be subdivided in order to be processed, or Transportation Manager either wouldn't run or would run too slowly. The upgraded application can handle up to 30,000 shipping orders simultaneously and decide how to initiate their execution, all within several hours, says Bott. Already in place in North America, the software will be rolled out to Europe later this year.

Ryder uses tracking and tracing software built in-house to monitor the flow of supply chain goods around the world, and it has encountered problems dealing with differences in time zones, units of measurement and terminology.

Moreover, Bott says Ryder's customers are making increasingly sophisticated contractual demands. Many are buying financial and other performance criteria into their agreements with Ryder, and the company has to demonstrate that it has met its SLAs on a monthly or quarterly basis. In turn, Ryder has built performance-measurement tools around MCR's Teradata and Microsoft Corp.'s SQL Server databases, as well as analytical software from MicroStrategy Inc., a business intelligence applications vendor in McLean, Va. As part of this effort, Ryder has already built a transportation management performance tool and plans to create a tool to measure how its warehouse meets SLAs. The reports will be available to customers via a Web browser.

As companies continue to test the limits of their SCM software, more challenges will emerge. "I can think of a myriad of problems going to the [Far] East that I never had before," says VF's Martin, "and there's no road map [to follow]." ● 55370

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BRIEFS

Oracle Database 10g Release 2 Ships

■ Oracle Corp. is shipping Version 10g Release 2 of its database. All editions are available on Red Hat Enterprise Linux 3.0, and over the next 90 days, the product will be available on other versions of Linux as well as Unix and Windows. Standard Edition One starts at \$4,500 per processor.

HP Ships OpenView Select Access

■ Hewlett-Packard Co. has released OpenView Select Access 8.1, which integrates Citrix Password Manager to give customers single sign-on audit log information. The product started shipping July 18, but pricing information wasn't available.

Tenrox Announces Release 8.5

■ Tenrox Inc. has unveiled Tenrox Release 8.5. The new version includes document management collaboration and portal capabilities, said Providence, Calif.-based Tenrox. Release 8.5 also includes predefined enterprise dashboards, tighter integration with Microsoft Project, improved support for lots data workflow, an enhanced notification engine and tools for compliance with Section 508 of the U.S. Rehabilitation Act. Pricing begins at \$400 per annual user or \$40 per month per user for the full suite if hosted.

Netware Rolls Out Image Manager

■ Netware Systems Inc. in King of Prussia, Pa., has released Netware Image Manager software, which allows PC and Web-client users to store storage instead of having to rely on local storage. Bundled with Netware 6.5, the software starts at \$200. It can also be used on currently deployed systems at a cost ranging from \$80 to \$180.

ROBERT L. MITCHELL

Lost Laptops Sink Data

LOST BACKUP TAPES may be the IT security issue du jour, but stolen laptops are a bigger and more intractable problem. Critical business data walks out the door every day on notebook computers. Increasingly, those

devices are going missing. Laptops are easy targets because of their portability.

That makes restricting physical access all but impossible. Just recently, for example, two laptops stolen from a human resources service provider put the names and Social Security numbers of Motorola employees at risk [QuickLink a6480]. At Wells Fargo last fall, information on thousands of the bank's borrowers was compromised when three laptops were stolen from a subcontractor [QuickLink 50562]. In both cases, the data wasn't encrypted.

Therein lies another problem. All too often, logical security controls that could protect data simply aren't used. While encryption provides an obvious remedy for securing backup tapes in transit, there are no easy fixes for securing those very personal mobile computing devices — only trade-offs.

Encryption slows down performance, which may irritate power users. And employees may view biometric devices, smart cards and other access-control mechanisms as burdensome. Unfortunately, the people whose laptops have the most sensitive data tend to be the ones who have the least patience dealing with layered security.

Yet the consequences of inaction are increasingly public, thanks in part to the law known as California SB 1386, which requires companies to notify customers of data breaches within 48 hours. Had Wells Fargo required its subcontractor to encrypt all data, it wouldn't have had to notify customers of the theft.

Any machine that has the potential

to hold sensitive data or e-mail should be encrypted. But don't bother with Windows XP's Encrypting File System. "If you know your Windows password, you know the keys to the hard drive. There are a lot of ways to hack that," says Clain Anderson, director of wireless and security at Lenovo.

Full disk encryption works better because it's transparent: Users don't have to be trained — and trusted — to save all their data in an encrypted folder. Most approaches use the Triple Data Encryption Standard algorithm to encrypt data, which is very secure. But the encryption keys still must reside on the disk. Some laptops, including some of Lenovo's ThinkPads, store this data on a security chip based on the Trusted Platform Module (TPM) standard.

"That gives you a gatekeeper so your passwords and digital certificates can be protected and aren't just laying around on the hard disk somewhere," says Anderson. If employees forget their password, they're locked out, but a separate administrator password can be configured for support purposes.

Seagate Technology has announced another option: hardware-level disk encryption, which is available with its new Momentus drives. The encryption key resides on a restricted area of the disk, so even if the drive is removed, a thief still can't boot the system or read the disk without the password. Both IBM and Dell are lining up behind the technology. But laptop vendors are unlikely to integrate the drives until a second supplier

jumps into the market.

Smart cards are the best bet for additional access controls beyond the system log-in. Major laptop vendors already offer integrated card readers as an option. Biometric devices, in contrast, are more of a convenience feature for password management than a true security mechanism. For example, the ThinkPad X41 has an embedded fingerprint reader and encrypts the password database using the TPM chip. But while there's only a 1 in 10,000 chance that it will accept a wrong fingerprint, there's a 1 in 20 chance that it will reject a valid fingerprint. For systems without an integrated reader, add-on devices can cost \$70 or more per system. "From a pure hardware-enablement standpoint, the cost is more than double for biometrics over smart cards," says Tim Gee, product marketing manager at Dell.

Among Dell customers, the adoption rate of smart cards is about 20%, compared with less than 3% for TPM and biometrics, Gee says. But lost smart cards can also be an annoyance for both users and the support personnel who manage them.

All of these technologies can add to management complexity and can be expensive to deploy at scale, cautions Gee. For protecting locally stored data, however, disk encryption will suffice. If an encrypted laptop is stolen, the perpetrators can't access the data or they can't use the machine unless they swap out the drive or reformat it. "The chance of them getting the information is so infinitesimally small that it isn't worth thinking about," says Anderson. Given how much IT already has on its plate, one less thing to think about is just what the doctor ordered. ☎ 95494

LAPTOPS RECOVERED

Location-based services might help track missing laptops. www.computerworld.com/story/0,3907,213961,00.asp

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MONDAY, SEPTEMBER 26

Registration Open 10:00am - 8:00pm

Noon - 5:00pm Pre-Conference Golf Outing
7:00pm - 9:00pm Welcome Reception

TUESDAY, SEPTEMBER 27

Registration Open 7:30am - 7:00pm

7:00am - 8:00am Breakfast
8:00am - 8:15am Welcome and Opening Remarks
8:15am - 9:30am General Sessions
9:30am - 10:15am Panel Discussion
10:30am - 12:10pm Concurrent End User Case Studies
12:15pm - 1:45pm Networking Luncheon
1:45pm - 5:00pm General Sessions
5:15pm - 9:00pm Networking Lounge and Expo with Dinner

WEDNESDAY, SEPTEMBER 28

Registration Open 7:30am - 7:00pm

7:00am - 8:00am Breakfast
8:00am - 8:15am Opening Remarks
8:15am - 9:30am General Sessions
9:30am - 10:15am IT Executive Insights Panel
10:30am - 12:10pm Concurrent End User Case Studies
12:15pm - 1:45pm Networking Lounge and Expo with Lunch
1:45pm - 5:00pm General Sessions
6:00pm - 6:30pm "Best Practices" Awards Ceremony
6:30pm - 9:00pm Gala Evening with Dinner & Entertainment

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A HIGH SCHOOL DIPLOMA and a good work ethic once guaranteed lifelong employment. Then a bachelor's degree and,

later, graduate studies became prerequisites for top-flight jobs.

Now even that might not be enough. "It's moving toward having two graduate degrees," says Stephen Haag, chairman of the Department of Information Technology and Electronic Commerce at the University of Denver's Daniels College of Business. Haag says the university's business partners, as well as students, have expressed interest in programs that teach deep technology skills along with business acumen to prepare graduates for the tasks facing IT executives today.

So in 2002, the university started enrolling students in a dual-degree program that combines a master's in business administration with a master's in IT. "You can't just be an IT specialist. You have to have the business skills to ensure long-term career success," Haag says.

In the past several years, colleges around the country have begun offering programs that pair the prestigious MBA with a master's in computer technology. Not that these dual-degree programs are dime a dozen: The Graduate Management Admission Council, a

business-school association based in McLean, Va., says only about 2% of the roughly 1,400 MBA programs in the U.S. offer a dual-degree program of any kind. The council doesn't track how many of those programs offer the specific combination of an MBA and a master's in computer science.

But school administrators say employers as well as students with either IT or business backgrounds are increasingly interested in that specific duo. And while professionals on either side can pick up skills on the job, dual degrees prove they've developed knowledge in both specialties.

Pfizer Inc. in New York is one company that seeks out and hires these grads, says Justin Sowers, director of global business technology. "I like to find people with the depth of knowledge in business and a passion for technology, with the appropriate skills in both areas," he says. "It's easier to find that good balance in MS/MBA programs."

Compressed Time Frame

Students can earn their degrees in these programs more quickly than pursuing them separately because some courses overlap. School officials say most candidates earn both degrees in just a few years. But the dual-degree programs do require extra stamina, since most require a dozen or more courses beyond a standard MBA.

Boston University, for example, requires 84 credits for its MS/MBA program, says Louis Lataif, dean of BU's School of Management. In comparison, students seeking only an MBA need 60 credits, while students who need the master's of science in information systems degree needed 48 credits. (BU no longer offers the MSIS as a stand-alone degree.)

Despite the additional credits, Lataif says students can still earn an MBA and an MSIS in the 21 months it takes to earn an MBA by taking extra courses and summer sessions. Prospects don't seem to be put off by the extra work: About half of the 100 or so current MBA students at BU are enrolled in the 5-year-old MS/MBA program.

The dual-degree candidates at BU tend to mirror the profile of the typical MBA student, Lataif says. They average 27.5 years old, with about five years of professional work experience. About 45% are female, and about one-third are non-Americans.

Lataif says some of these candidates come from technical jobs, but many come from business disciplines. "We're not talking about preparing techies, so

Loyola University Chicago

- Requires 23 to 27 courses vs. 25 to 30 if pursuing separately

University of San Diego

- Requires 63 units, or 21 courses

The Creighton University College of Business Administration

- Requires 48 credit hours (including foundation courses) vs. 66 if pursuing separately

University of Maryland

- Requirements vary, at an example,

we get a cross-section of MBAs interested in this program," he explains.

Suzanne Hitchco, 29, started at BU in 2002 after realizing that her bachelor's in industrial engineering didn't give her all the business skills she needed for the consulting jobs she held after college. Business concepts such as channel marketing, brand management and sales force management were unfamiliar to her.

"I thought it would be a real asset for me to not only have the business fundamentals but also a really strong understanding of technology and how technology is changing business," she says.

A 2004 graduate, Hitchco is now a senior manager for Pfizer's U.S. business technology group, where she works with internal clients to bring technology to bear on business problems. "My dual degree was one of the reasons I was able to get this position," she adds.

Sowers agrees. "Suzanne has been given a fair amount of responsibility because of her understanding of both the technology issues and the business issues," he says.

Lisa Rankin, also 29, had a similar experience. She graduated from Bentley College in Waltham, Mass., in 1997 with a bachelor's degree in business communications and a minor in IS. She worked as a webmaster for a year before becoming a consultant designing front-end Web applications for large financial services institutions.

"So much of the design was to support business objectives, and I thought I would be more effective if I had a better understanding of the applications and the business objectives they're trying to achieve with these applications," she says.

Rankin enrolled in Bentley's dual-degree program, where she is working

- the MS/MBA in technology management

- requires 60 credits.

University of Delaware

- Requires 60 credits

The University of Michigan

- Business School and the School of Information

- Requires six unrelated terms to complete

The Joseph M. Katz Graduate

- School of Business at the

University of Pittsburgh

- Requires 20 months to complete

toward an MBA and a master's in human factors and information design. Symantec Corp. in Cupertino, Calif., hired her in December as a user experience manager in its Waltham office, where she helps design how the company's Web site interacts with customers.

Bentley has had its dual-degree program for several years but is now enrolling students in its new accelerated program. Full-time students can earn both degrees in two years instead of three because of a greater overlap in the courses required to graduate, says Judith Kamm, an associate dean and MBA program director at Bentley.

While officials at Bentley and other programs say they draw many students from the business side, Paula Wilson, director of MBA admissions at the Georgia Tech College of Management in Atlanta, says her school's program mostly draws technical workers who initially want just a master's or Ph.D. in computer engineering or computer science.

"Many times, they don't even think about the MBA until we get here," she says. Students decide to pursue the business degree once they learn that they can earn both degrees in 70 to 76 course hours versus the 90-plus course hours needed if the degrees weren't consolidated. "It's just so appealing to people who feel they have a strong technical degree but believe that balancing it out will give them a little bit of an edge," Wilson says.

Like other academic and corporate leaders, Wilson says graduates from dual-degree programs will have a range of opportunities, from management jobs in nontechnic business units to high-level positions at tech companies, or they can work as advisers on how to

use technology to advance business objectives. Some may eventually move into chief technology officer or CIO positions, she adds.

Not everyone is convinced that the MS/MBA combination is necessary for success in IT. "It doesn't have to be a particular set of degrees," says Marcie Schorr Hirsch at Hirsch Hirsch Associates Inc., a management consulting firm in Newton, Mass.

She believes workers need continuing education, but she says they can get that from a variety of courses, such as industrial design classes. "There's a lot we could look at that's not traditional but will be an education that will be helpful," Schorr Hirsch adds. But dual degrees bring job offers. While school officials couldn't say whether dual-degree candidates are hired more quickly than graduates with a single master's degree, some noted that companies come to campus specifically to recruit students in their dual-degree programs.

These graduates may earn more, too. Haug says dual-degree grads from the University of Denver typically earn about 15% more than those who have only one advanced degree.

Entrepreneurial Edge

Anant Gupta sees dual-degree grads following entrepreneurial paths, equipped to launch the next generation of technology revolutions. Gupta, senior director for research and business development at the Eller College of Management at the University of Arizona in Tucson, started a dual-degree program there.

The first class will begin in August and graduate in two years after finishing 70 units. Interest has been strong, Gupta says, not only from prospective students but also from business leaders contacted by the university.

Doug Norman, section leader of Air Force command and control integration at The Mitre Corp. in Bedford, Mass., is watching the Arizona program develop, and he thinks the approach makes sense. "The problems morph from engineering problems into other large, multidimensional problems that involve technology, organizational structure, the goals and aspirations of the company and the people touched by them," he says. "Engineers by themselves are ill prepared to deal with those things. You need all these business skills, too." **EW 96188**

Pratt is a Computerworld contributing writer in Waltham, Mass. Contact her at marykpratt@verizon.net.

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University College of Adelphi

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• The MS/MBA in technology management

• Requires 80 credits.

• University of Delaware

• Requires 80 credits.

• The University of Michigan

• Requires 80 credits.

• The University of Wisconsin

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But dual degrees bring job offers. While school officials couldn't say whether dual-degree candidates are hired more quickly than graduates with a single master's degree, some companies, such as Hirsch-Hicks Associates, specifically to recruit students in their dual-degree programs.

These graduates may earn more, too. Haig says dual-degree grads from the University of Denver typically earn about 15% more than those who have only one advanced degree.

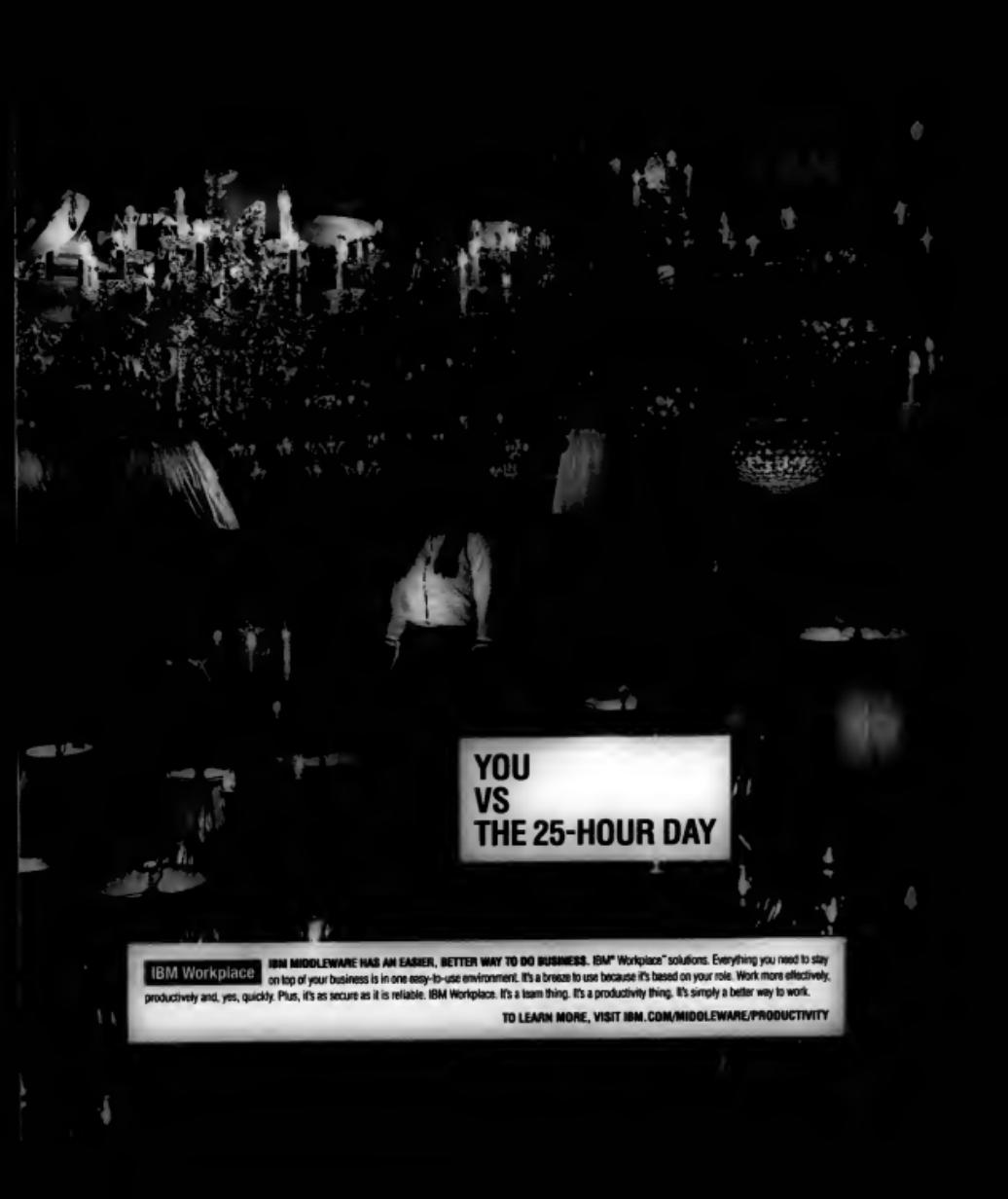
Entrepreneurial Edge

Amar Gupta sees dual-degree grads following entrepreneurial paths, equipped to launch the next generation of technology revolutions. Gupta, senior director for research and business development at Hirsch-Hicks Associates of Management at the University of Arizona in Tucson, started a dual-degree program there.

The first class will begin in August and graduate in two years after finishing 70 units. Interest has been strong. Gupta says not only from prospective students but also from business leaders contacted by the university.

Doug Norman, section leader of Air Force command and control integration at The Mitre Corp. in Bedford, Mass., is watching the Arizona program develop, and he thinks the approach makes sense. "The problems morph from engineering problems into larger, multidimensional problems that involve technology, organizational structure, the goals and aspirations of the company and the people touched by them," he says. "Engineers by themselves are ill prepared to deal with those things. You need all these business skills, too." © 1995

Pratt is a Computerworld contributing writer in Waltham, Mass. Contact her at marypratt@verizon.net.



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BARBARA GOMOLSKI

IT R&D Redux

DURING THE PAST FEW MONTHS, I've talked with several CIOs who are re-establishing formal research and development groups within their IT departments. This anecdotal evidence doesn't prove a trend, or course, but it does hint at what could be a very interesting development for IT organizations.

We have to think back only five years or so to recall that most large IT organizations used to have an internal R&D capability. This group typically consumed around 3% of the IT budget and a slightly higher percentage of the IT staff head count. (In some organizations, the investment in IT R&D was substantially higher.)

The charters of IT R&D groups varied, but essentially they called for explorations of the ways emerging technology could affect the corporate IT environment. Those who worked in R&D were often envied by the rest of the IT group because they were "the guys who got paid to play with cool, new stuff."

Generally, R&D was one of the most privileged spots to occupy in IT during the tech boom.

The fortunes of the IT R&D function changed, however, when the IT bubble burst and the economy faltered. During the days of deep IT budget cuts in the early 2000s, IT R&D was often the first area to get the ax.

Realistically, few CIOs could defend an investment in IT R&D during a period when few IT investments of any kind were being made. Indeed, the past five years have been marked by efforts to lower IT costs, rationalize existing software portfolios and explore alternative sourcing models.

While it was sad to see IT R&D groups get shut down during the eco-

nomic doldrums, it was a necessary response to a stagnant economy.

However, some of the people I've talked with lately believe it's time to revive a small department of IT professionals focused on emerging technologies. The organizations that are doing this tell me that what's driving them is the consumerization of IT and their need to understand how "consumer IT" will affect their business.

Ironically, just as IT R&D departments were struggling for survival in the early 2000s, IT was reaching a whole new market of consumers. As corporations were slashing IT budgets, consumers were becoming more immersed in technology.

For instance, mobile and wireless gadgets and high-speed Internet have proliferated in the consumer market during the past few years. As a result, the demand to support emerging technologies is much more likely to come from your customers now than from your business leaders.

Moreover, IT R&D is well posi-

tioned to play a key role in optimizing existing IT systems and protecting sensitive corporate information.

It's exciting to think about reviving the R&D function in IT, but this is a different world than the one we knew in the late '90s. IT organizations that choose to formalize this function will have to be very specific about the benefits the group will provide.

Here are some tips that might help you keep a resurrected IT R&D group solvent:

■ **Expand the purview of IT R&D beyond emerging technologies.** Involve it in issues such as IT architecture, strategic planning and even IT market research. This helps avoid the stigma (from the business perspective) of IT R&D as "the guys who get paid to play with all the cool, new stuff."

■ **Consider partnering with research institutions such as major universities to supplement the IT R&D capability in your company.** Universities are often excellent repositories of great information on how new technologies will affect business. Since they aren't commercial enterprises, they are usually more than happy to join forces with the private sector.

■ **Realize that IT R&D groups can fail if they lack metrics, deliverables, timetables and specific goals.** As with any IT function, it's essential to understand how the business defines success for the group. And make sure there are metrics in place that can be used to measure success.

CIOs should have a clear understanding of the value that an IT R&D function will provide, and they should be able to communicate that to stakeholders.

The re-emergence of IT R&D groups could be an exciting development for IT organizations, but it must be implemented with a clear set of business goals. **EW5077**

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KNOWLEDGE CENTER OPERATING SYSTEMS

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Asia

While governments throughout the region are pushing Linux adoption, some private-sector users, like T.C. Juan, vice president of new technology development at Taiwan Mobile, are adopting Linux to save money. Page 32

EDITOR'S NOTE

THE FACT that Linux is an international phenomenon isn't too surprising, since the kernel was invented by Finnish student Linus Torvalds at the University of Helsinki. But what began as a modest programming effort — just a hobby, Torvalds once said — has grown beyond the stage of a few maverick users thumbing their noses at Microsoft. In Asia, for example, shipments of Linux server licenses grew by 36% in 2004, while shipments of client licenses rose 49%, IDC says.

So, for this special report, we fanned out beyond U.S. shores to find out who's using Linux and why. Some of the deployments are quite substantial: The Industrial and Commercial Bank of China plans to use Linux for all front-end banking operations. Banca Popolare di Milano in Italy is rolling out 4,500 Linux desktops, and LVM Insurance in Germany has Linux on 7,700 desktops and 30 servers, for example.

The reasons for Linux deployments vary, but increasingly they're based less on zealotry and more on practicalities. "It was not that we just wanted to do open-source. We had to find a way to protect our investment in network computing," says an IT manager at LVM Insurance. Another IT executive in Europe says he made the switch to save money on hardware: "Linux is and of itself as an operating system was not the driver. The fact is, Linux enabled us to use a commodity platform."

So join us on a tour of Linux activity around the world. It's much more than a hobby. **© 80304**

Mitch Betts is executive editor at Computerworld. Contact him at mitch_betts@computerworld.com.

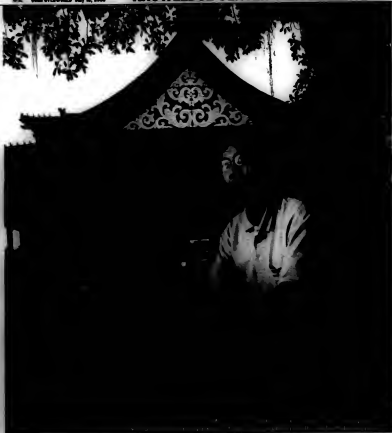
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Linux Goes Global

**SPECIAL
REPORT**

Serious Linux deployments are popping up all over, from German insurers to Chinese banks.



Government Helps Make China a Linux Hot Spot

**BY SUMNER LEMON
AND DAN NYSTEDT**

LINUX USAGE is rising quickly in Asia, thanks in part to widespread support for the open-source operating system among governments in the region. But the real driving force behind the growing adoption of Linux in Asia is the business community's need for lower IT costs.

The key to lowering technology costs is to choose open-source software and commodity hardware, says Linda Brigrance, CIO at FedEx Corp.'s Asia-Pacific operations, speaking to Chinese IT managers at a recent conference in Shanghai.

"We need to make sure we are driving our systems cost down with

“

Even though we had to hire our own [Linux] development team, it's still more cost-effective to use Linux instead of relying on the big vendors.

**Y.E. JIAH, VICE PRESIDENT
OF NEW TECHNOLOGY DEVELOPMENT,
TATAMAR MOBILE**

Linux," Brigrance says.

Despite the growth, these are still early days for the operating system in Asia. Microsoft Corp.'s Windows accounts for the bulk of software licenses sold in the region for both server and client operating systems.

But while Linux holds a small percentage of the overall operating system market in Asia, it's spreading quickly. Shipments of Linux server licenses there rose by 36% in 2004, and shipments of client licenses rose 49%, according to IDC. Windows shipments are also growing, but at a slower pace: 24% for server licenses and 14% for clients.

One of the companies that has benefited from increased Linux usage is Dell Inc., which is seeing demand for Linux-based servers rise at double-digit rates. Linux is one of the most important operating systems in Asia, particularly in the server market, says Bill Amelio, Dell's senior vice president for Asia-Pacific and Japan.

"A lot of customers are looking for open standards," Amelio says, noting that demand for Linux in Asia has outpaced demand in other regions.

Big Growth in China

Much of this demand is coming from China, where the government has backed Linux as an alternative to Microsoft's continued dominance of the operating system market. But government support isn't the only reason a growing number of Chinese companies are using Linux. Practical business demands are playing a role too, particularly in the country's financial industry.

In April, the Industrial and Commercial Bank of China (ICBC), the country's

largest bank, announced plans to deploy Turbolinux Inc.'s Turbolinux 7 Data-Server operating system for all of its front-end banking operations over a three-year period. While financial terms of the deal weren't disclosed, the project represents one of the largest Linux deployments yet undertaken in China.

ICBC is switching to Linux to replace applications that currently run on The SCO Group Inc.'s version of Unix. The bank wanted to upgrade these systems and chose Linux largely because it wanted better performance and vendor support, according to Nielsie Jiang, an analyst at IDC in Beijing.

ICBC isn't alone. Several of China's largest banks are also expected to move their front-end applications from SCO Unix to Linux, Jiang says.

In coming years, more Chinese companies will turn to Linux as a server operating system to help cut their IT costs, says Wise Huang, IT solutions manager at APL (China) Co., a shipping and logistics company in Shanghai. APL has standardized its PCs and servers on Windows, but Huang says the open-source operating system deserves consideration by Chinese IT managers. "I always suggest that my customers use Linux," he says.

Government Influence

Like in other parts of the world, governments in Taiwan and Hong Kong are long-winded about open-source initiatives. But much of their support for Linux appears to be on paper only; implementation of the operating system has been slow. Businesses in both places have picked up the slack, turning to Linux as a

lower-cost way to run servers and other systems.

In Taiwan, for example, officials have long worked on plans to deploy Linux on computers in government offices and public schools. Although

there have been some success stories, progress has been slow, critics say. But a major government initiative that began nearly five years ago has produced results such as the promotion of Linux in embedded software, with the help of the island's hardware makers.

Championing open-source software in Taiwan has been particularly important because of the large role Taiwanese companies play in the global IT market. Taiwanese companies operating on the island and in China account for a large

HOT POCKETS

A sampling of Linux users in Asia



Industrial and Commercial Bank of China, Beijing

Linux deployment: Plans to deploy Turbolinux 7 DataServer operating system for all front-end banking operations for 20,000 branch offices.

Taiwan Mobile, Taipei

Linux deployment: Has about 250 servers running Linux, mostly Red Hat and SUSE.

FedEx's Asia-Pacific operations, Hong Kong

Linux deployment: Is using Linux in its Asia-Pacific operations but won't reveal the exact number of Linux-based computers.

share of the world's IT products and parts — and nearly the entire world supply of motherboards.

A number of companies say they have either used Linux or released hardware and software specifications to allow open-source community members to create their own drivers. Drivers are typically small software files that contain information a computer needs to recognize and control hardware devices. For example, in April, two Taiwanese makers of graphics chips released the software code for some of their drivers to the open-source community.

The two companies, Via Technologies Inc. and XGI Technology Inc., released the source code for some graphics chips and LCD drivers. The idea is that developers will be able to use the code to create drivers for operating systems not supported directly by the vendors. But there's more work to be done.

Richard Stallman, one of the main forces behind the GNU/Linux operating system and the free software movement, visited Taiwan in May to ask PC parts makers to provide the specifications necessary for developers to write free drivers for their hardware.

"We just need the information about what their drivers have to do," Stallman said during a speech at National Taiwan University. GNU software writers can use this information to create their own drivers for open-source systems.

Slow on Software

Other business sectors in Taiwan have put Linux to good use as well. For example, Taiwan Mobile Co., one of the island's largest mobile telephone service providers, launched a trial of its third-generation (3G) mobile services, which run on Linux servers. The company has been using the open-source software for years, mainly because of

its cost and flexibility.

"Even though we had to hire our own [Linux] development team, it's still more cost-effective to use Linux instead of relying on the big vendors," says T.C. Juan, vice president of new technology development at Taiwan Mobile. He says the cost of add-ons and upgrades and other issues have kept Taiwan Mobile from choosing a vendor for its software needs, but he added that the future is less certain.

"Linux is already a proven and workable operating system," Juan says. "But shareware and Linux don't have the resources to do the continuous upgrades and improvements." In 3G technology, more continuous software development is needed to ensure that service providers keep up with the latest user trends so they can offer useful mobile services.

Many other private companies in Taiwan have also adopted Linux for their servers, including the island's largest telephone company, Chunghwa Telecom Co., and investment specialist KGI Securities Co.

Hong Kong has been a bit of a different story. While the government does promote open-source systems and has specific policy goals with regard to procuring open-source software for some of its bureaus, it hasn't made a major push to promote Linux.

"Linux is still only picking up in developed areas like Hong Kong. It's far stronger in developing countries like China and India," says Irene Chow, a researcher at IDC in Hong Kong. "In developed countries [in Asia], many companies have entrenched vendors and don't want to switch."

Even so, governments across Asia, including those of Japan, South Korea and Malaysia, have announced programs designed to encourage the use of Linux by local companies. But not everyone feels those efforts are enough.

Says Takashi Kodama, a vice president at Japanese Linux provider Miniscule Linux Corp., "We need more government support, and we need the government to encourage the use of major projects for Linux." © 505091

Leon and Nyttend are Taipei correspondents for the IDG News Service. Paul Kallender in Tokyo contributed to this report.

KDC'S BIG MOVE

Read more about Industrial and Commercial Bank of China's plan to deploy Turbolinux 7 DataServer for all of its front-end banking operations.

David L. Johnson
www.computerworld.com

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HOT

A sampling of Linux users in Asia



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Lesson and Nyström are Taipei correspondents for the *IDG News Service*. Paul Kallender in Tokyo contributed to this report.

KB's BIG MOVE

Reef rents about Industrial and Commercial Bank of China's plan to deploy Turbolinux 7 DataServer to all of its front-end banking operations.

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OPEN-SOURCE zealots may continue to play a part in instigating the spread of Linux across the European continent, nearly 14 years after Linus Torvalds hatched the operating system in Finland. But private corporations and public-sector users in Europe typically cite pragmatic reasons for taking up the open-source operating system. They point to price and performance benefits. They want freedom to swap out hardware. They find the operating system reliable. They like its flexibility.

"It was not that we just wanted to do open-source. We had to find a way to protect our investment in network computing," says Matthias Strelow, a technical project manager at LVM Insurance in Münster, Germany. "I'm not sure it would have been possible with any other operating system."

When IBM canceled further development of the network stations it owned, the insurance company needed an operating system to run its Unix-based applications and Sun Microsystems Inc.'s new Java virtual machine. So LVM customized Linux to meet its needs. Finally tiring of maintaining the software, LVM is now planning to move 7,700 Linux clients to Red Hat Inc.'s supported desktop distribution, Strelow says.

Servers Lead the Way

On the server side, perhaps no single industry has tested Linux's enterprise mettle more than the financial services sector. Companies were facing mounting pressure to cut costs at the turn of the millennium. The Internet bubble was about to burst. Prices were fluctuating wildly. Order volume and data traffic were spiking in the wake of the electronic trading boom. Revenue was not.

The number of stocks being traded was the same, and the rising cost of processing orders was becoming a big problem. When the market slump hit in 2001, that only exacerbated the trouble. Financial institutions had to think out of the box — fast — and Linux became an obvious alternative to consider. Several of the largest firms started to dump their proprietary Unix systems and shift to cheaper x86 hardware running Linux.

"Linux in and of itself as an operating system was not the driver," says an IT executive at a major global financial institution who didn't want to disclose his name and company. "The fact is, Linux enabled us to use a commodity

Financial Services Companies Lead the Charge to Linux

BY CAROL SLIWA



platform. Trading in very expensive [Sun] Sparc-based systems for much lower-priced commodity Intel systems was the biggest win."

He says the "cataclysmic event" that paved the way for his firm to make the switch was the release of a more stable 2.4 upgrade to the Linux kernel in late 2000. The Linux/Intel server combination would ultimately enable the firm to save "tens of millions of dollars" in IT costs across thousands of servers.

"There's nothing we wouldn't run on it," the IT executive says.

Cost savings were making the decision a no-brainer. When the Amsterdam office of AtoxEurotext looked to replace its on-floor trading operations with an electronic system about six years ago, calculations showed it would need 24 additional CPUs, at \$1 million per processor, for its quoting system if it stuck with the Tandem NonStop it used for the main trading system, says Willem Gorter, manager of the project.

So AtoxEurotext decided to try Hewlett-Packard Co. Tru64 Unix servers for its quoting systems and IBM RS6000s running AIX for the data-distribution servers. But it never finished the migration after discovering that the DDS application ran 10 times cheaper and four times faster on HP dual-processor Xeon boxes with Red Hat Linux. The quote servers doubled their performance on the Intel-based servers.

Plus, the DDS application port took just 15 days, and the quoting system took about 30 days. The total project cost checked in at \$17 million, including 80 servers and labor, says Gorter.

"Most of the effort with porting it to Linux was convincing everyone that it would work," he says. The staff later marvelled when the system ran for a year and half without interruption.

Strength in Numbers

Major financial institutions became one of the most powerful lobbies for Linux, pooling their clout to get their software vendors to support the operating system. They collectively urged their many software vendors to port applications to Linux.

Reuters Group PLC was one of the first to step up to the plate, porting its Reuters Market Data System to Linux. Donovan Ramsome, director of channel marketing for the RMDS, says more than half of the company's 20 biggest customers converted to Linux during the past three years.

Financial institutions became the No. 1 source of revenue for Red Hat in Europe, where the bulk of its sales come from the U.K., France and Ger-

HOT POCKETS

A sampling of Linux users in Europe

- 1 **LVM Insurance, Munster, Germany**
Linux deployment: 7,700 desktops, 30 servers.
- 2 **City of Bergen, Norway**
Linux deployment: 20 IBM blade servers running Linux for Web, file and print, e-mail and directory services; plans to move 75 Oracle databases to Linux and is considering moving school desktops to Linux.
- 3 **Banca Popolare di Milano, Milan, Italy**
Linux deployment: 4,500 SUSE Linux desktops, 70 instances of Linux on IBM zSeries mainframes.
- 4 **State of Lower Saxony, Hannover, Germany**
Linux deployment: 11,000 desktops for police; plans to migrate tax administration department's 12,000 Solaris workstations to Linux. Also runs 50 Linux servers.



many, according to Werner Knoblich, Red Hat's director of Europe, the Middle East and Africa. Although Linux is technically free, few companies are willing to run it without a support and maintenance contract.

In Norway, every borough, department and school had been maintaining its own IT infrastructure, and the city of Bergen was anxious to consolidate systems into a central computing center. In 2001, Bergen's city council voted that open-source should be considered for all future software acquisitions.

The first big server project involved moving 100 schools from more than 100 aging Windows NT 4 boxes to servers than 20 centrally managed IBM blade servers for Web, file-and-print, e-mail and directory services. The IT staff designed a test to pit Windows against Novell's SUSE Linux. Linux won because the hardware performed better with it, and the cost was 30% less.

Next up is the migration of 75 Oracle Corp. databases that run on 30 servers to about 10 Linux servers. That long-term project will keep Bergen in step with corporate trends, as Linux gains traction in the data center from its initial sweet spot at the edge of the network.

"We started these projects out of necessity, because we had outdated systems or systems that were too expensive to run," says Ole-Bjorn Tufvesson, the city of Bergen's chief technology officer. "We ended up finding that Linux was in every way a viable alternative as a server operating system in an enterprise environment."

On the desktop, Linux support vendors continue to struggle for a high-profile success story that might drive adoption. Red Hat CEO Matthew Szulik says he's getting more inquiries from corporate executives about desktop Linux. But on the sales front, the vendor is careful to target companies with limited numbers of Windows-based applications, Knoblich notes. He says one of two serious pilots with large German companies could produce a migration of 30,000 desktops.

Phillip Dawson, a London-based analyst at Gartner Inc., says many projects have gone through the test phase only to encounter challenges with applica-

tion support and integration when it comes time for the rollout.

"It's been the 'yeast of the Linux desktop' since 1998. It hasn't happened," says Chris Ingle, a London-based analyst at IDC. "You don't find CIOs saying, 'My biggest priority is changing all the desktops.'"

Europe may outpace the U.S. with Linux desktop deployments, but even there, Linux captures only a small piece of the Windows-dominated market. And when it does, it's often thin-client or limited-function deployments, as opposed to the thick-client, knowledge-worker setups that Windows commands.

Novell never positions its desktop operating system as a replacement for Windows, according to Brian Green, director of solutions management for Europe, the Middle East and Africa. Green says Novell has been able to stop Microsoft Corp. from winning data center business, particularly in Germany, where its SUSE Linux AG unit remains strong in its home territory. But on the desktop, Novell focuses on clients where Linux might be a good fit, such as call centers or retail stores.

There have been some high-profile desktop Linux wins in the public sector. The city of Munich, for instance, made news with its selection of Linux. And the German state of Lower Saxony has 11,000 limited-function Linux desktops for its police force and plans to migrate 12,000 Solaris workstations to Linux for its tax administration department, according to Michael Breet, head of client/server systems at the

Lower Saxony IT center. But that will still leave Lower Saxony with 31,000 Windows desktops.

Government Stance

Despite government statements on the national, regional and local level in Europe, Linux penetration remains strongest on servers in the public sector. Dawson says the government dis-incentives tend to affect the evaluation of Linux more than adoption. "And it puts [users] into a strong negotiating position with Microsoft," he adds.

The European Commission has shown mixed signals with respect to Linux, according to Graham Taylor, director of U.K.-based OpenForum Europe, a not-for-profit organization that is funded by vendors such as IBM, HP, Novell and Sun. Taylor says he has been encouraged to see the commission promote choice and indicate support for open-source software. Yet the EC remains a heavy user of Microsoft software, he adds.

In general, Taylor says it will be important for Linux to gain a foothold on the desktop, "where people see it and touch it in an organization."

"In the infrastructure," he says, "it's hidden away. Ninety percent of the users won't even see it."

Practical considerations often make it tough for corporations to consider enterprise-wide Linux deployments. For instance, Banca Popolare di Milano is rolling out 4,500 SUSE Linux desktops with a Mozilla Web browser, a Web client for Lotus Notes, Sun's StarOffice suite and a Java-based custom suite of applications appropriate to its 500 branch offices.

CIO Clive Whincup says the bank wanted to avoid the headache of maintaining a separate collection of Windows servers for the branches, because it was already using the Lightweight Directory Access Protocol on Linux servers for its security infrastructure. The Milan-based bank runs 70 SUSE Linux images on its three IBM zSeries mainframes. But it has no plans to replace its 3,000 Windows desktops at its home office. The bank's users are accustomed to Windows-based applications.

"There is too much to migrate," says Whincup. "And there's not really an efficient business case to do it." □ **EW385**

GLOBAL KNOWIT

Red Hat CEO Matthew Szulik says the best opportunity for the company's open-source software stack is outside the U.S. Head to usa.redhat.com

Circle 14 on Reader Service

"We had to find a way to protect our investment in network computing. I'm not sure it would have been possible with any other operating system."

MATTHEW SHULZ, TECHNICAL SUPPORT MANAGER, LVM INSURANCE

Linux Is Common, But Some Slow To Buy Support

BY CAROL SLIWA

SOME TECHNOLOGY industry insiders say there seems to be a little bit of Linux just about everywhere in the corporate IT shops of Australia. But it can sometimes be difficult to quantify exactly where and how much.

Gordon Hubbard, treasurer of the Australian Unix Users Group and managing director of Sydney-based Custom Technology Australia Pty, says he finds companies there are less willing to pay for enterprise Linux than companies in the U.S. are, perhaps because they tend to be smaller in scale.

Steve McWhirter, vice president at Red Hat Inc. in the Asia-Pacific region, estimates that Red Hat has at least 1,200 customers in Australia. "But quite often, we get shocked when a customer tells us they have 60 servers, a lot sitting on the edge of the network, and they don't need to have maintenance contracts," he says.

The majority of companies outside the financial services industry in Australia use Linux to run their server systems, according to IDC. The public sector is also encouraging the use of open-source software, and a number of government departments have adopted it. But deployments tend to be smaller in Australia, and some users have taken their time in moving to supported versions of Linux.

Going It Alone

OPSM Group Ltd., a popular retail eye-wear chain in Sydney, Australia, is a case in point. OPSM, which was acquired this year by Milan, Italy-based Luxottica Group SpA, shifted the mission-critical Legacy Support System in its data center to Red Hat's free distribution more than three years ago.

"We researched it thoroughly beforehand and knew what we were getting into," says Alex Chisholm, OPSM

Group IT manager. "We are largely a Unix-skilled operation, and we see Linux as another variation of Unix. It would have been more challenging if we had been running Microsoft operating systems before deciding to go to Linux."

Chisholm says that while IT staffers had to be proactive about downloading and testing upgrades and patches, the company never encountered a problem for which they couldn't find a ready fix.

"If a problem arises, one of our staffers posts a query, and answers come in from around the world almost overnight," he says.

OPSM's data center experience was so successful that it has since rolled out Red Hat Linux servers for point-of-sale systems in each of the chain's 540 retail outlets.

Late last year, OPSM moved to secure a Linux support contract, which includes upgrade packages and indemnity protection measures. "The company opted for Novell Inc.'s SUSE Linux because it owns other Novell products and wants to reduce the number of suppliers it deals with."

Although Linux server use is pervasive among private corporations and public-sector entities in Australia, the actual penetration rate is any given one of them is low, according to Virvan Tero, a Singapore-based analyst at IDC. Linux, on average, runs less than 23% of the server environments where it's found, and it's most commonly used in the telecommunications, media and wholesale retail industries, Tero adds.

If the government holds any sway, that could start to change. The Australian Government Information Management Office (AGIMO) in April posted its 62-page "Guide to Open Source Software" to educate and encourage government agencies to think beyond

"the traditional square" when they need to purchase technology.

"Certain proprietary solutions had the comfort of a big name that people could hide behind," says Sen. Eric Abetz, special minister of state responsible for the AGIMO. "What we were asking the various departments to do is to look at fitness of purpose and cost-effectiveness and not to dismiss open-source software as an option."

If a government agency opts for a proprietary product after careful consideration of open-source alternatives, as one department recently did, that's fine with Abetz. The AGIMO, after all, has no power to mandate that government departments even consider open-source software. But Abetz says he wants agencies to think about how they can best fix a problem before they go out and see what's available.

A scattering of government agencies are already using Linux, including the Department of Veterans' Affairs. The DVA serves about 3,000 end users through Linux-based Samba file-and-

print services on an IBM x900 mainframe. The decision to move off Windows file-and-print services came three years ago at contract renewal time with the DVA's outsourcer, IBM Global Services, says Bob Hay, CIO at the Canberra-based national office of the DVA. Hay says the department was interested in Linux/Samba for cost and performance reasons.

"It all boils down to business value and cost. We keep an open mind in terms of what's available," Hay says. "It's not a religious approach. It's a pragmatic approach."

At the state level, one of the most closely watched open-source initiatives is in New South Wales. The government recently announced a two-year contract with a "panel" of Linux suppliers from which public agencies will be able to procure software, training, systems integration services and support under terms and pricing the state has negotiated.

Elizabeth Gordon-Werner, manager of strategic projects at the office of the government CIO for the New South Wales Department of Commerce, says the request to do the "panel contract" came from government agencies, but the jury's out on whether it will spur greater adoption of Linux.

Linux usage, however, is stretching even to the outer limits of the continent. The Shire of Broome, on Australia's sparsely populated northwest coast, illustrates how the open-source operating system is catching on from the bottom up.

Campbell Greewick, a local champion of Linux, began using the technology about 10 years ago to run the local technical school and installed Linux servers for the students. Shortly after Greewick became IT manager for Broome, he recycled an old Pentium Pro to provide free Linux-based Web and e-mail services for 100 government employees. The shire only recently purchased a support contract from Red Hat.

Greewick was able to persuade Broome's main software vendor, IT Vision Australia Pty., 2,000 kilometers away, near Perth, to port its major application from Unix to Linux. Hay says he fields a steady stream of inquiries from his peers about Linux, although just two of the vendor's 125 local government council customers now run it.

Martin Bell, business development manager at IT Vision, says, "I guess our belief is that Linux is a more likely option for our customers to want to take up in the future." © 05/06

HOT POCKETS

A sampling of Linux users in Australia

- 1 **OPSM Group Ltd., Sydney, New South Wales**
Linux deployment: More than 600 servers; point-of-sale systems in 540 stores; plans to expand to 700 stores.
- 2 **Department of Veterans' Affairs, Canberra, New South Wales**
Linux deployment: File-and-print servers on IBM zSeries mainframe.
- 3 **Shire of Broome, Western Australia**
Linux deployment: Three servers for Web, e-mail and file-and-print services and databases.



ALTHOUGH Linux adoption in Latin America has for years been the subject of loud debates in governments between backers

of Microsoft Corp. and proponents of open-source software, a quieter but no less interesting trend is developing among private-sector enterprise users.

While countries such as Brazil and Venezuela have initiatives to promote broad adoption of open-source software in government agencies, Linux, on its own, is steadily winning converts among private-sector IT managers in the region.

Businesses such as banks, pharmaceutical companies and e-commerce providers in Latin America are turning to Linux servers to tackle an increasingly broad array of business and technology problems, attracted by what they perceive as its solid performance and comparatively lower costs. Along the way, Linux is elbowing out various other server operating systems — primarily Windows, but also Unix, NetWare and legacy platforms.

Users say they trust the technical stability, performance and scalability of Linux servers and are using them to run essential business software, such as messaging systems, firewalls, databases and enterprise applications. Adopters also report solid support from Linux vendors such as IBM, Hewlett-Packard Co., Novell Inc. and Red Hat Inc., as well as their respective channel partners.

Triple Threat

In 2003, MercadoLibre.com SA, a Buenos Aires-based online marketplace with operations in multiple countries in the region, outgrew its server infrastructure, which was made up entirely of Sun Microsystems Inc. boxes running Solaris. It opted to mi-

grate to HP Itanium machines running a Linux operating system from Red Hat, instead of adding Sun servers to its existing setup.

"With a single shot, we had to solve three issues: availability, scalability and performance. And we had to do it at a low cost," says Edgardo Sokolowicz, MercadoLibre.com's chief technology officer, in an e-mail interview.

MercadoLibre.com, whose biggest shareholder is eBay Inc., today runs its entire operation — both back-end processes, including an Oracle9i database, and customer-facing Web operations — on HP Itanium servers with Red Hat Linux server and PC operating systems. The move has slashed maintenance costs and increased performance, Sokolowicz says.

"As the business grew, we added HP Linux servers, improving performance, eliminating single points of failure and obviously doing all this within our budget," Sokolowicz says.

While Linux found its way into MercadoLibre.com by providing improved performance at lower costs, its security won it entry in 2001 to the Mexico office of British publishing company Macmillan Publishers Ltd.

Although it had security software from McAfee Inc. and Microsoft's Proxy Server, Macmillan Mexico was suffering from constant virus infections and server intrusions, as hackers routinely deleted server boot-up files and redirected Web site pages, says José Valdovinos, information systems manager for Macmillan's Mexico and Peru operations.

Disatisfied with Proxy Server, which Microsoft later discontinued, and stung by what it considered high Exchange licensing fees for its then 80 or so users, Macmillan Mexico decided to migrate to servers running the Linux operating system and a messaging system and firewall from SUSE Linux

L

HOT POCKETS

A sampling of Linux users in Latin America

1 Macmillan Publishers Ltd., Mexico City

Linux deployment: Dell and Compaq servers using a SUSE Linux server operating system and running the SUSE Linux OpenExchange messaging and groupware platform as well as Kaspersky Lab antivirus and antispam products.

2 MercadoLibre.com SA, Buenos Aires

Linux deployment: Cluster of 10 HP Integrity servers, each with four Itanium 2 processors, using a Red Hat Linux server operating system and running Oracle's Oracle9i database and e-commerce applications developed in-house.

3 Servopac SA, Curitiba, Brazil

Linux deployment: IBM and xSeries servers using a SUSE Linux server operating system and running IBM's DB2 database, Tivoli systems management software, WebSphere Application and Edge servers and multiple business applications.

AG, a German vendor that was later acquired by Novell Inc. The McAfee software was replaced with enterprise security products from Kaspersky Lab.

"The [security] problems, which were a daily occurrence for us, are gone," Valdovinos says. "It was the best decision we've made to ensure the company's continuity of operations."

While Valdovinos acknowledges that Microsoft has improved the security in its products in recent years, he says the SUSE Linux products are working well, and he sees no reason to migrate back to the more expensive Exchange messaging system, particularly now that Macmillan Mexico is expanding. The publisher, which is standardizing its server and desktop hardware on Dell Inc. machines, now has close to 200 users, Valdovinos says.

A Big Year

"What we're seeing is that in 2003, Latin American enterprise users were learning about Linux, and then in 2004, Linux became for them a reality, a viable alternative in terms of its feature set. In 2004 was the turning point, when massive adoption of Linux servers began in the region," says Ricardo Villate, a program manager at IDC Latin America.

IDC estimates that 15% to 18% of servers in Latin America run Linux — putting Linux in second place, behind Windows, which runs about 75% of servers, Villate says.

In terms of dollar value, Linux

servers in the region have a projected compound annual growth rate of 17% between 2004 and 2009, the fastest rate among all server platforms, he says. A 2004 IDC study shows that Windows is the operating system most often displaced by Linux in Latin America.

Although the lower costs associated with acquiring and operating Linux servers are still the main draw for Latin American enterprises, an emerging trend is the small but increasing use of Linux servers for critical tasks, such as running ERP suites, Villate says. This shows that Linux is increasingly being seen by Latin American IT managers as a secure and solid server platform that can be used for workloads beyond Web serving, e-mail and file-and-print tasks, he says.

A big help has been a push from vendors such as IBM and HP, plus an increase in resellers and systems integrators that are skilled on Linux and can offer support, observers say.

Valdovinos says he has noticed that IT managers in Mexico are increasingly receptive to using Linux on their servers.

"In the past two or three years, I've noticed a greater acceptance toward Linux at the enterprise level," Valdovinos says. "More people are trying out these products, and they are more open-minded, whereas there used to be a lot of skepticism." ☐ 8822

Price is a U.S. assistant news editor in the Miami bureau of the IDG News Service.

Lower Costs Drive Private Sector to Linux

BY JUAN CARLOS PÉREZ



Linux Makes Its Way Into the Classroom

BY TODD R. WEISS

FACED WITH UNIQUE SETS of challenges, countries across the continent of Africa have varied experiences with Linux and open-source software. From country to country, the issues are often much more elemental than a

debate over whether to use proprietary or open-source operating systems and applications. Instead, the key can often be as simple as whether villages have phone lines or high-speed Internet access — or whether there is even electricity available to run computers.

"You just can't make generalizations about infrastructure across Africa," says Allen Gunn, co-director of Aspiration Tech, an Amherst, Mass.-based group that helps nonprofit organizations find the best software for their needs. In South Africa, bandwidth is extensive and reliable, he says, and electricity is more widely available. In Zimbabwe and countries to the north, electricity and network connections are spotty.

But ironically, the availability of electricity and connectivity isn't necessarily limiting the development work being done in open-source and Linux, he says. "People in some of the least connected areas are doing some of the most interesting work," Gunn says. Some developers adjust their work schedules to fit times when they can connect — say, from midnight to 5 a.m., he notes.

Linux Advocates

Across the continent, several open-source and technology advocacy groups, including SchoolNet Namibia,

the Free and Open Source Foundation for Africa and the Shuttleworth Foundation, are working to put open-source and Linux on the radar.

Joris Kosen, a founding director of SchoolNet, says open-source use is so far mostly centered in schools in Nigeria, Namibia and South Africa. Tanzania and Mozambique are just now beginning to embrace Linux use, he says. But the price of technology is a huge stumbling block in poor countries, he says. "If we can get the price of hardware down to what we pay for mobile phones today, we'll be in business," Kosen says. "We would be well on our way to bringing the spread of technology across the African continent."

Across Africa, several local Linux distributions are continuing to be developed, including Ngoma Linux, Direq International's OpenLab education-targeted bundle and Ubuntu Linux. One nonprofit group, Translate.org.za, has been translating open-source software into the 11 official



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SNAPSHOTS

Linux in Asia

• **39%** of respondents have Linux installed on their company servers.

• The **top three** systems running on Linux are e-mail servers, file-and-print servers and data servers.

• **87%** of the Linux users run Red Hat Inc.'s Linux operating system.

SOURCE: SURVEY OF 500 LARGEST ORGANIZATIONS IN THE ASIAN PACIFIC REGION. MARQUETTE RESEARCH, INC.

Expanding Comfort Zone

Are you becoming more or less comfortable using open-source software?



SOURCE: SURVEY OF 500 CEOs IN THE U.S. AND EUROPE. FEBRUARY 2005. MARQUETTE RESEARCH, INC.

Go It Alone

We run our own open-source software?



IBM 8%
Red Hat 8%

SOURCE: SURVEY OF 500 CEOs IN THE U.S. AND EUROPE. FEBRUARY 2005. MARQUETTE RESEARCH, INC.

MARK HALL

Closing Windows?

HERE'S YOUR FIRST NUMBER: 49. HERE'S YOUR SECOND: 14. The first number is rising. The second is falling. Which number do you bet on in the long run? The experienced punter would gamble on the first number. But would you? The 49 is IDC's percentage-growth calculation for Linux client licenses in Asia last year; 14 is the growth rate for Windows clients there.

That's just one of the nuggets you'll find in our feature on Linux in Asia on page 32. Without remotely hinting that the end is nigh for the Windows development team in Redmond, reporters Sumner Lemon and Dan Nystedt describe how Asia's fortunes are smiling upon Linux. Between the lines, you can read how companies throughout Asia increasingly see Linux on servers and the desktop as a necessary part of their global competitive advantage over companies that use Windows or proprietary Unix systems.

As Linux wins over more desktops in Asia, the long-awaited growth of Linux on the desktop will be inevitably accelerated here and in Europe. (By the way, the server license growth in Asia is similarly heavily weighted in Linux's favor.) I believe Linux client growth here will occur because independent software vendors will target the Asian market with their products. And it's the availability of innovative software that solves end-user needs at the right price that determines whether a desktop operating system will succeed.

It's hard to believe that Macintoshes once attracted nearly as many software developers as Windows machines. But Windows' fast growth (and Microsoft's brilliant strategy to hold its DOS-independent software vendors while nurturing Windows development) quickly left Mac in the dust for available titles. Although Linux doesn't have even a tiny fraction of the commercial software that Windows does today, it really doesn't have to. Open-source products abound for Linux machines, and smart Asian companies are putting together Linux application bundles that meet their needs.

Still, commercial software vendors won't give up on Linux. Quite the contrary. All major U.S. software vendors have development groups in India and China, and if they're business-savvy, they won't just be running quality-assurance checks for Western-specific products for Windows. They'll create tools for the region's popular desktops, of which Linux will be one. The best of these products will thrive and be localized, ironically, for Western countries. Adding to the muscle of corporate software creation are entrepreneurial vendors

in Asia, most of whom we don't know yet.

Finally, there's the unstoppable trend inside IT to deploy corporate applications written with the Web browser and not Windows in mind. That makes it less likely that CIOs will find reasons to object to Linux (or even the Macintosh) on the desktop where appropriate.

The competitive winds are clearly blowing in Linux's direction. Microsoft isn't blind to these trends. Its forceful push of .Net as way to create Web services applications is one such defense. It will likely make Windows clients necessary inside some organizations. That's because developers won't be able to resist using cool features that .Net can leverage within Windows and Microsoft applications and tools.


Microsoft is also one of the leading investors in Asia, spending hundreds of millions of dollars to sustain demand for Windows by cutting its price and seeding schools with its operating system.

Let's not forget, Microsoft is wealthy. And smart. It has beaten back every strategic threat it has faced—from CP-M to Macs, NetWare and Lotus 1-2-3. Microsoft's alternatives have always emerged as the victors. The company also trounced the U.S. Department of Justice in the political/legal arena. It's a force to be reckoned with. But Linux is different. Microsoft knew who the enemy was in previous strategic wars. It exploited the competitive weaknesses of Apple more than the technical weaknesses of the Mac. And at the height of those LAN operating system battles, Microsoft outwitted Novell more often than Windows outperformed NetWare.

However, there is no parallel corporate champion of Linux for Microsoft to target. Linux has many supporters with differing strategies. Microsoft can counter some of them, but not all.

Linux won't merely thrive; in time, it will rival Windows everywhere. It's gaining ground on servers in data centers in the U.S. and Europe, and it's picking up speed on desktops in Asia. And despite all of its efforts to date, Microsoft hasn't been able to stop it. Nor will it. © 5/5/05





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Perhaps you've heard: Oracle desupported Oracle Database 8i last year. Meaning potential headaches, higher cost or a complete migration to current versions of Oracle. Fortunately, IBM offers ongoing, around-the-clock service and support for DB2.

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FRANK HAYES • FRANKLY SPEAKING

Our Linux Values

SO LINUX IS MAKING ITS MARK around the globe (see stories starting on page 31). But is it really making a difference? Well, Microsoft has had to offer a stripped-down, lower-priced version of Windows to compete with Linux. Many governments are putting Linux (and open-source software in general) on their short list for IT acquisitions. And Linux is being customized for local needs by local companies, giving them a stake in the IT business.

But there's something more going on — something that goes beyond simple measures of business advantage.

Linux is exporting our values around the world. And we need that. What values? Competition. Cooperation. And opportunity.

And who are we exporting those values to? Everyone involved with Linux. But especially those who have the most technical smarts and the greatest business vision. In other words, the people who can make the biggest difference in the years to come — wherever they may be.

Does that sound too good to be true? It's not. Linux is all about competition — competition of brain power, technical skills and experience. Got lots of money? High social status? A pretty face? None of that helps. To compete for a place in the Linux world, you need a PC, an Internet connection and a brain. Your fellow propellerheads will judge you on your ideas, your code and your other contributions. Anyone can play.

Knowing English helps. But knowing C++ or Python helps a lot more. Fractured English is forgivable as long as the code is good.

It's good code that competes to be part of the Linux kernel. Good utilities that compete to be part of each Linux distribution. And good distributions that compete for users.

True, Linux isn't the only thing spreading the values of competition around the globe. Soccer does that, too. But soccer is about teams competing against each other. Linux is about individual competition.

And in Linux, that competition is bound up with cooperation with every other competitor. It's not just we-all-follow-the-same-rules cooperation, either. Each competitor gets the full benefit of what every other competitor does. Nobody gets to board the good stuff. Everybody shares the intellectual wealth.

Which feeds more competition.

Which results in a better Linux.

But that's not the only result of Linux's share-the-wealth approach. It also offers an opportunity for anyone clever enough to build a business around Linux. The raw material, Linux itself, is free. Finding unmet customer needs, shaping products and services to meet those needs, making it all into a business — that's the hard part. Specialized features? Localizations? Custom applications built on top of Linux? Specialized services built around Linux? The kind of business to create depends on what customers need. But everyone in the Linux game knows the opportunities are there.

Competition. Cooperation. Opportunity. They're quintessentially American business values (even though some American businessmen think they don't have any use for cooperation).

But they're also cultural values — values that can cut across nations and ethnic groups, politics and economics.

It's one thing to sell the rest of the world products and services. But to really do business,

we want them to share our ideas of what business is supposed to be. And we want them to have skin in the game, so they're as committed to a successful deal as we are.

Those are the values carried around the globe with Linux. The values that prime the rest of the world to do business with us. Linux has no monopoly on competition, cooperation and opportunity. But it's nice to know Linux is helping spread them around.

Oh, and it's an operating system, too. ☎ 555-47



Linux T-shirts, Computerworld's online news column, has earned IT for more than 20 years. Contact him at Frank.Hayes@computerworld.com

Users Say the Darndest Things

University support staff fish in hip-deep in problems with e-mail viruses and worms when a Ph.D. forwards an e-mail attachment to him. Fish recognizes the instructions up like as the Mycob worm but can't help chuckling at the user's message: "OK, I don't have a Zip drive to open the instructions and am idiots." Says fish, "Now we have to figure out why our virus scanner suddenly stopped blocking Zip attachments."

Uh, No

After a virus scan, user asks help desk fish because his PC is flashing a message: "Please insert head disk." User: "Can't you do that remotely?"

Just Pick One

Government agency issues users Sharp CD readers, which display a difficult six-digit authentication password every minute. "We provide an instruction sheet with detailed buttons that makes the use of the card a simple step-by-step process," says fish that working them. "But we were surprised for the only one we received from a new user. 'We do need one of your Sharp card keep changing. Which one do I use?'"

No, But Thanks For Asking

Confused user asks help desk fish why "The Sharp drive isn't working. Is the network down?"

Try the West Line Up

User doesn't log in, and help desk fish says: "Please don't log in. We don't have that software that you're trying to connect to the wrong server." I asked her to read me the bottom line of the screen, so I could

get her server

help. "There was a long pause, then the

reply: "Tony Trillium."



Talking Dirty

Perished user on a heavy-duty four-rod support fish. "We usually test in his application," says fish. "He explained, 'I was tested in the early days, then left the early day. Someone cleaned the keyboard.'"

Longer Cables?

This business office phone user needs phones, so fish fish shows facility manager a brochure about a 2.0-GHz model. Facilities says: "Yes, that's a lot of storage for a phone! What would all that be for?"

Write Only

It's a slow day, so fish if user fish is glad to help a user design a presentation. When fish says, "When I told her that she was doing that she said she didn't do that off the top, she had bright red and said, 'Please don't tell anyone about this.'"

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Knowing English helps. But knowing C++ or Python helps a lot more. Fractured English is forgivable as long as the code is good.

It's good code that competes to be part of the Linux kernel. Good utilities that compete to be part of each Linux distribution. And good distributions that compete for users.

True, Linux isn't the only thing spreading the values of competition around the globe. Soccer does that, too. But soccer is about teams competing against each other. Linux is about individual competition.

And in Linux, that competition is bound up with cooperation with every other competitor. It's not just we-all-follow-the-same-rules cooperation, either. Each competitor gets the full benefit of what every other competitor does. Nobody gets to hoard the good stuff. Everybody shares the intellectual wealth.

Which feeds more competition.

Which results in a better Linux.

But that's not the only result of Linux's share-the-wealth approach. It also offers an opportunity for anyone clever enough to build a business around Linux. The raw material, Linux itself, is free. Finding unmet customer needs, shaping products and services to meet those needs, making it all into a business — that's the hard part.

Specialized features? Localizations? Custom applications built on top of Linux? Specialized services built around Linux? The kind of business to create depends on what customers need. But everyone in the Linux game knows the opportunities are there.

Competition. Cooperation. Opportunity. They're quintessentially American business values (even though some American businessmen think they don't have any use for cooperation).

But they're also cultural values — values that can cut across nations and ethnic groups, politics and economics.

It's one thing to sell the rest of the world products and services. But to really do business,

we want them to share our ideas of what business is supposed to be. And we want them to have skin in the game, so they're as committed to a successful deal as we are.

Those are the values carried around the globe with Linux. The values that prime the rest of the world to do business with us. Linux has no monopoly on competition, cooperation and opportunity. But it's nice to know Linux is helping spread them around.

Oh, and it's an operating system, too. © 19947



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